ARITHMETIC

3

Second Half of This Book

Clifford B. Upton

ARITHMETIC

Grade Three

AMERICAN BOOK COMPANY

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Introduction

The meaning theory of teaching arithmetic is the philosophy underlying the writing of these books. According to this theory, arithmetic should be so taught that the pupils understand it. This means clear and simple explanations of the fundamental processes of arithmetic, it means emphasis upon basic principles and concepts rather than the mechanical following of rules, it means an understanding of our number system, it means motivation of all new processes and topics by problems relating to children's interests, it means a wealth of problems and projects, and finally it means enough exercises on each topic so that the pupils can compute and solve problems with ease and comfort instead of struggling through a solution due to lack of sufficient practice. All these phases of the meaning theory are constantly applied throughout this series of arithmetics.

The work on problem solving, as developed in these books, incorporates the results of recent researches on this subject. These researches have shown that one-step arithmetic problems can be classified into a limited number of thought patterns representing all the types of quantitative thought and language that are possible in connection with each of the four fundamental operations. The problems given in ARITHMETIC, GRADE THREE, are limited to one-step problems and include all the thought patterns that are suitable for this grade. Many helps on problem solving are also included to guide the pupil and to acquaint him with the nature of the fundamental processes. This new

treatment of problem solving assures an adequate repetition of each type of problem and avoids a neglect of certain types which has often occurred in the teaching of arithmetic.

Number relationships are featured in this book and are used to help the pupil learn the basic number facts more quickly and thoroughly than heretofore. For example, the fundamental addition facts are developed by the relationship method, a few addition facts well learned being the key to the learning of all the rest of these facts. Similarly, the subtraction facts are learned by relating them to the addition facts instead of memorizing them as independent items. In like manner, the division facts are quickly obtained from the multiplication facts by a simple process of relationship. This new approach to the learning of the number facts results in a great economy in time and effort.

The explanations of fundamental processes are given in simple language that third grade children can understand. Great care has been taken to avoid overexplanation and the confusion that it causes.

The vocabulary has been carefully selected and contains an unusually high percentage of words recognized in authoritative word lists as suitable for the third grade and below.

The work on common measures involving the foot, quart, pound, and hour is distributed throughout the book on progressively higher levels, instead of being concentrated in one or two places. This affords many practical applications of arithmetic related to children's interests.

In the exercises on the four fundamental operations, as given in ARITHMETIC, GRADE THREE, the numbers with which the pupil works are limited to three figures. In addition and subtraction, carrying and borrowing are delayed until the pupil has become very proficient in working exercises that do not require these skills. The multiplication and division facts are given through the 4's. The work in multiplication is restricted to one-figure multipliers with single carrying while that in division is confined to even division without carrying. Checking is carefully taught, the methods used being those of the business and industrial world.

To assure adequate learning and provision for individual differences, this book contains an unusually large number of carefully graded exercises and problems. The pupils' progress is frequently checked by reviews, summaries, and problem tests. There is also a comprehensive program of diagnostic tests, covering the four processes, with keyed references to remedial exercises.

The author wishes to acknowledge his indebtedness to Dr. Ethel Sutherland, to Miss Margaret Uhlinger, and to Mrs. Siegried M. Upton for their many valuable contributions to this book.

CONTINUES FROM
FIRST HALF

CHAPTER SIX

Multiplying by 3

1. Last Friday our school had a cooky sale. The girls in the cooking class made 360 cookies. The other children brought 324 cookies from home. How many cookies were there for sale?

2. We had 144 chocolate cookies and sold all but 12 of them. How many chocolate cookies did we sell?

3. There were 108 sugar cookies and we sold 102 of them. How many sugar cookies were left?

4. The girls made 126 orange cookies and 96 nut cookies. How many more orange cookies did they make than nut cookies?

5. Alice brought 2 dozen fruit cookies from home. How many cookies did she bring?

6. Miss White bought 2 dozen cookies. She paid $.35 a dozen for them. How much did Miss White spend for cookies?

7. When the sale was over there were only 24 cookies left. How many of the 684 cookies did we sell?

1. In our school this year there are 793 children. If 428 of them are boys, how many girls are there?

You subtract 428 from 793 as shown in *A*. The answer is 365. You get the 65 of 365 the same way that you get the 65 when you subtract 28 from 93 as shown in *B*.

A	*B*
793	93
428	28
365	65

2. There are 793 children in our school and 549 children in the Park School. How many more children are there in our school than in the Park School?

Subtract these numbers. Check the work:

3. 791	983	776	872	333	688
373	369	459	515	214	339
4. 475	491	873	986	690	851
158	243	314	527	233	716
5. 792	873	974	432	667	954
564	136	629	316	448	227
6. 947	885	680	593	675	962
819	447	117	358	559	833
7. 962	560	983	580	981	844
627	414	737	155	462	628
8. 596	632	796	871	751	791
278	318	129	546	634	217
9. 272	595	270	471	335	894
229	206	139	465	308	686

Borrowing from or carrying to the tens column.

Subtract. Check the work by adding up:

1. 272	674	340	595	466	783
158	425	304	177	248	536
2. 690	543	973	672	890	834
306	429	507	234	158	319
3. 365	791	987	170	583	594
108	235	969	22	344	567
4. 591	785	833	796	397	951
226	759	408	417	28	624
5. 833	194	871	625	241	481
515	168	703	616	207	419
6. 754	487	690	581	261	392
616	339	247	102	128	85
7. 590	642	272	672	980	848
433	406	243	167	311	829
8. 262	480	135	680	973	451
49	459	127	675	136	344
9. 645	232	765	161	533	210
628	124	419	146	407	203
10. 773	540	753	460	992	532
269	205	604	224	845	313
11. 245	583	570	994	581	860
126	355	428	639	247	816

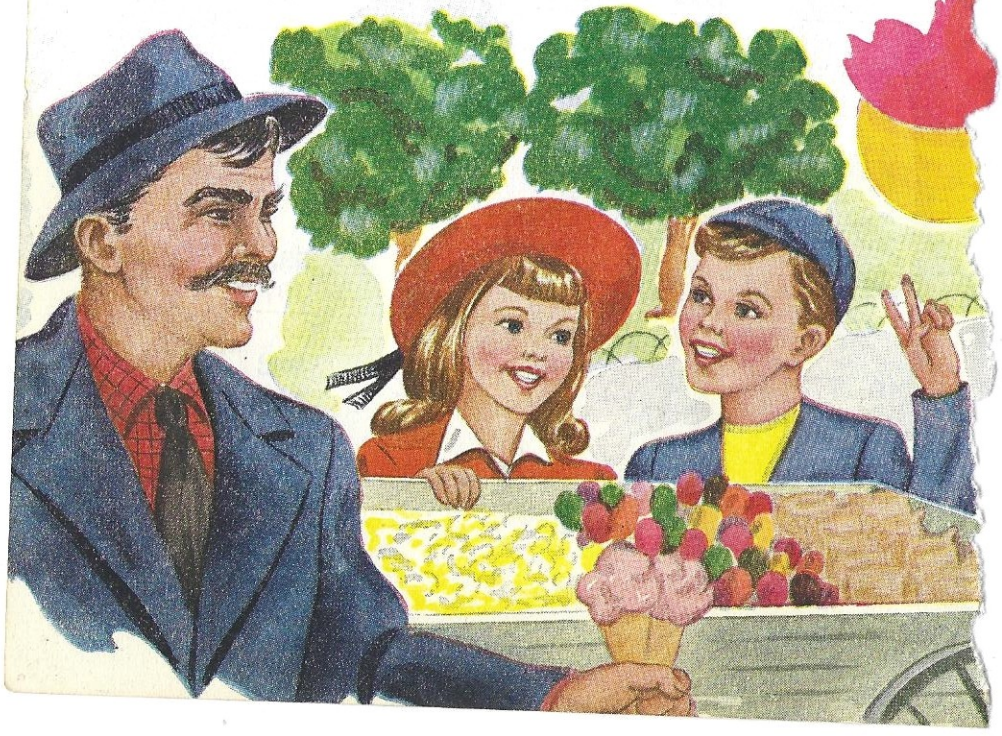
BUYING THINGS FROM JOE

1. Every Saturday Alice, Tom, and their friends play in the park. They like to stop at Joe's cart to buy things. Today Tom bought a balloon for 12¢. He gave Joe a quarter and Joe gave him some money back. This money Joe gave back to Tom is called *change*.

Joe made the change like this: He began with the cost of the balloon, 12. He gave Tom 3 pennies which he added to 12 and said "15." Then he gave Tom a dime which he added to 15 and said "25." Joe stopped there because 25¢ is the amount Tom gave him. Joe added enough to 12¢ to make a quarter.

2. Alice had a dime. She gave it to Joe to pay for lollipops that cost 4¢. Tell what Joe said as he gave Alice the change. How much did he give her?

3. Bob had a quarter. He bought an ice cream cone for 5¢. Tell how Joe counted the change as he gave it to Bob. How much change did Bob get?



4. In ex. 3, Joe gave Bob 2 dimes in change. Tell two other ways Joe could have made change without using 2 dimes. Count out Bob's change in these two other ways.

5. Betty gave Joe 2 dimes to pay for a balloon that cost 12¢. Tell what Joe said as he gave Betty the change. How much money did he give Betty?

6. Make change from 25¢ for things that cost:

14¢ 3¢ 18¢ 10¢ 15¢ 6¢ 20¢

1. Peggy bought a book for 18¢ and gave the man in the store 50¢. The man gave Peggy 2 pennies, a nickel, and a quarter. The man gave these coins to Peggy, one at a time, saying, "18, 19, 20, 25, 50." Why did he begin with 18? Why did he stop at 50?

2. The man in the store could have made the change in another way. He could have given Peggy 2 pennies and 3 dimes. Then he would say as he gave her the coins one at a time, "18, 19, 20, 30, . . ., . . ." What numbers go in the spaces? Tell another way the man could have made the change.

3. How much change would you get from 50¢ and how would you count it if you buy a toy for 22¢? if you buy a game for 38¢? if you buy candy for 15¢? if you buy marbles for 27¢?

4. You can find the amount of change you get by adding the coins you get back. You can also find the amount of change by subtracting the cost of the thing you buy from the amount of money you give the man.

Find the answers to these problems by subtraction:

5. Mary bought a game for 75¢. She gave the man $1.00. How much change did she get?

6. Sally bought some groceries for her mother. How much change did she get from $1.50 if the groceries cost $1.39?

7. Tom bought a pair of roller skates for $3.00. How much change did he get from $5.00?

8. Bob paid $2.00 for a model airplane. How much change did he get from $5.00?

1. Last week the children in our school sold 192 tickets for the school fair. This week they sold 345 tickets. How many more tickets did they sell this week than last week?

You subtract 192 from 345 as shown in *A*. The answer is 153. It is easy to get the 3 of 153. You get the 15 of 153 the same way that you get the 15 in *B* when you subtract 19 from 34.

How many more tickets did the children sell this week?

A	*B*
345	34
192	19
153	15

Subtract. Check the work by adding up:

2.	869	845	765	867	627	855
	494	162	283	677	135	560
3.	959	425	858	747	636	427
	295	261	272	593	242	284
4.	618	738	916	688	949	338
	278	557	124	390	382	164
5.	614	333	526	579	814	528
	491	271	196	498	353	173
6.	829	616	737	972	746	249
	357	361	491	682	175	153
7.	918	723	909	509	429	754
	581	642	755	286	174	382
8.	315	709	405	832	709	814
	234	379	144	481	191	544

Borrowing from or carrying to the hundreds column.

HOW TO COMPARE THINGS

1. Bill and his father went fishing. Bill caught a fish that was 15 inches long. His father caught a fish that was 11 inches long. How many inches longer was Bill's fish than his father's?

2. Bill made a boat 27 inches long. Tom made a boat 31 inches long. How much shorter was Bill's boat than Tom's?

3. Peter is 56 inches tall and Dick is 47 inches tall. How many inches taller is Peter than Dick?

4. Jack is 50 inches tall and Tom is 45 inches tall. How many inches shorter is Tom than Jack?

5. Jane is 15 years old. Her little sister Mary is 8 years old. How much older is Jane than Mary? How much younger is Mary than Jane?

6. Joe has 252 chickens. Ned has 239 chickens. How many more chickens has Joe than Ned?

To answer questions like *how much longer than, how much taller than, how much older than, how much more than,* or *how much less than,* you subtract.

Subtract. Check the work by adding up:

1.	689	825	706	518	657	527
	190	243	164	335	485	167
2.	955	645	553	827	936	609
	771	250	491	684	461	441
3.	414	339	446	729	318	944
	382	174	291	353	224	661
4.	829	657	964	518	845	709
	172	563	580	391	573	229
5.	851	667	260	457	164	807
	816	592	258	208	8	250
6.	476	261	839	323	813	492
	47	205	442	308	140	383
7.	838	498	131	916	480	383
	356	469	7	324	63	109
8.	291	600	794	942	338	396
	9	170	746	809	178	58
9.	652	375	672	548	470	708
	192	308	456	177	259	535
10	607	356	727	578	516	672
	211	7	409	82	509	318
11.	285	423	319	274	686	445
	234	140	286	158	292	207

1. Work each of these examples in subtraction:

915	543	500	605	220
407	406	260	25	18

The right answers to the examples are given below.

508	137	240	580	202

If you got a wrong answer to any example, try to find your mistake.

Subtract these numbers. Check the work:

2.	618	190	475	514	406	248
	409	25	167	106	86	80
3.	807	503	416	635	317	903
	727	242	280	326	108	580
4.	512	410	415	262	600	364
	109	205	309	154	550	280
5.	709	654	905	213	495	612
	219	49	753	6	288	307
6.	925	716	172	605	310	500
	570	407	68	174	8	120
7.	813	300	883	809	843	205
	404	230	375	740	237	165
8.	687	929	852	410	730	861
	149	760	643	201	180	703
9.	905	373	700	341	778	601
	390	209	430	307	590	571

1. The milkman delivers milk at our school every school day. Today he had 324 small bottles of milk for our school and the Park School. He left 135 bottles at the Park School. How many bottles were there for our school?

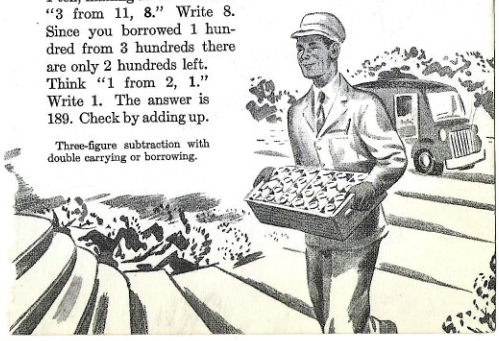
To subtract 135 from 324 you carry or borrow twice.

Additive Method. Think "5 and **9** are 14." Write 9. Carry the 1 of 14 to the tens column and add it to 3, which makes 4. Think "4 and **8** are 12." Write 8. Carry the 1 of 12 to the hundreds column and add it to 1, which makes 2. Think "2 and **1** are 3." Write 1. The answer is 189. Check the work by adding up.

$$\begin{array}{r} 324 \\ 135 \\ \hline 189 \end{array}$$

Take-Away Method. You cannot take 5 from 4, so borrow 1 ten from the 2 tens and add it to 4, making 14. Think "5 from 14, **9**." Write 9. Since you took 1 ten from 2 tens, there is only 1 ten left. You cannot take 3 tens from 1 ten, so borrow 1 hundred, which is 10 tens, from the 3 hundreds and add it to 1 ten, making 11 tens. Think "3 from 11, **8**." Write 8. Since you borrowed 1 hundred from 3 hundreds there are only 2 hundreds left. Think "1 from 2, **1**." Write 1. The answer is 189. Check by adding up.

$$\begin{array}{r} 324 \\ 135 \\ \hline 189 \end{array}$$



Three-figure subtraction with double carrying or borrowing.

1. Joe's father drove Joe to a city which is 210 miles from home. They drove 125 miles in the morning and the rest in the afternoon. How many miles did they drive in the afternoon?

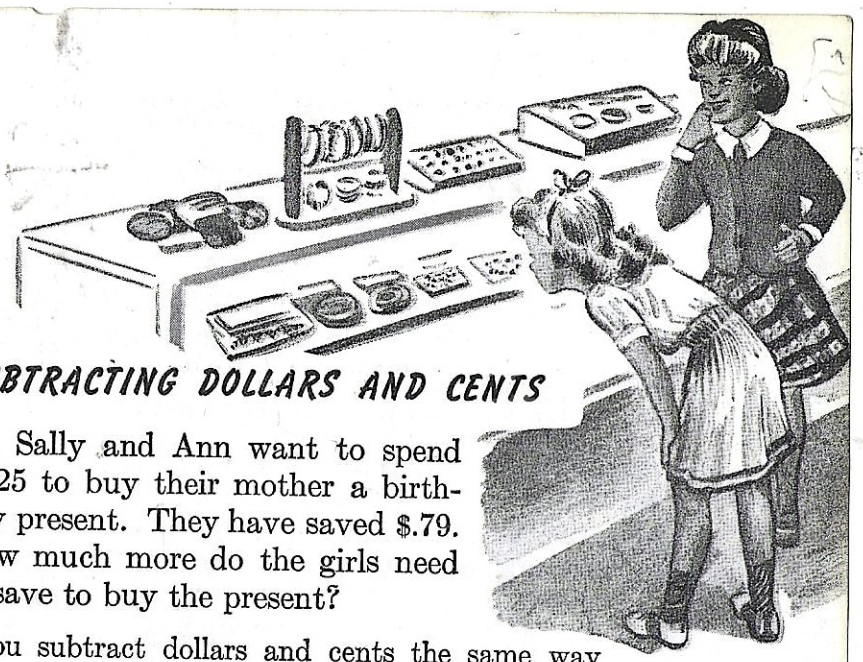
2. Tom sold 235 papers last week and 197 papers this week. How many less papers did he sell this week than last week?

3. Mary helped her father pick 225 flowers to sell. He sold 198 of them. How many flowers were not sold?

4. Mr. Smith bought a car for $745. He kept it two years and then sold it for $450. How much less did Mr. Smith get for the car than he paid for it?

Subtract these numbers. Check the work:

5.	420	782	323	564	935	513
	272	484	148	265	788	156
6.	337	632	925	433	814	575
	148	578	637	164	668	479
7.	820	751	833	642	263	921
	386	678	555	477	179	826
8.	922	840	915	641	742	640
	326	481	686	469	165	245
9.	746	754	433	560	814	611
	259	557	137	387	726	334
10.	832	914	811	620	862	328
	185	579	515	329	277	279



SUBTRACTING DOLLARS AND CENTS

1. Sally and Ann want to spend $3.25 to buy their mother a birthday present. They have saved $.79. How much more do the girls need to save to buy the present?

You subtract dollars and cents the same way that you subtract other numbers. The decimal point in the answer is placed under the other decimal points. The work is checked by adding up. Study the example at the right.

$3.25
.79
$2.46

2. Jack had $2.15 and spent $.98. How much money did he have left?

Subtract. Check the work by adding up:

3.	$2.36	$4.25	$3.34	$5.10	$8.52
	.99	.49	.68	2.65	.79
4.	$6.44	$5.62	$5.49	$3.24	$6.75
	3.66	1.98	.94	1.25	2.37
5.	$4.13	$6.08	$4.26	$1.43	$6.35
	1.54	1.64	3.68	.95	.86
6.	$8.75	$1.60	$4.50	$6.42	$7.20
	.94	.85	2.25	1.95	3.88

1. How much more than 347 is 800?

Additive Method. Think "7 and **3** are 10." Write 3. Carry the 1 of 10 to the tens column and add it to 4, which makes 5. Think "5 and **5** are 10." Write 5. Carry 1 to the hundreds column and add it to 3, which makes 4. Think "4 and **4** are 8." Write 4. The answer is 453. How do you check the work?

```
 800
 347
 453
```

Take-Away Method. Study *A* at the right. You see that you cannot take 7 from 0 and that you cannot borrow 10 from 0 tens. So think of 800 as 790 + 10 and write it as shown in *B*. Then think "7 from 10, **3**." Write 3. Think "4 from 9, **5**." Write 5. Think "3 from 7, **4**." Write 4. The answer is 453. How do you check the work?

```
 A      B
                10
800    790
347    347
       453
```

2. How much less than 600 is 238?

Subtract these numbers and check the work:

3.	900 553	600 294	500 407	300 209	$7.00 5.91	$2.00 .96
4.	407 258	320 138	702 598	160 97	$8.00 6.92	$3.02 1.97
5.	300 99	700 243	301 292	400 304	$1.80 .95	$9.00 4.88
6.	600 138	502 416	600 447	704 308	$6.06 3.99	$1.70 .85
7.	204 95	550 369	400 103	170 94	$5.00 2.16	$1.50 .87

Add up. Check the work by adding down:

1.	$5.76 .53 1.35	$2.64 3.26 2.37	$2.99 1.23 5.14	$2.97 4.04 1.44	$1.38 5.90 1.72
2.	$1.69 5.12 .18	$4.98 1.73 2.32	$2.86 .18 2.64	$6.77 1.55 2.47	$2.87 2.34 .49
3.	$3.78 2.43 1.21	$1.98 2.00 4.26	$2.46 1.36 2.69	$1.65 .94 4.16	$5.78 2.57 .45
4.	$3.76 3.35 1.19	$2.45 .88 1.63	$2.68 1.94 .57	$1.55 1.49 2.69	$1.64 .39 2.85
5.	$2.37 4.68 1.59	$3.09 1.40 .52	$1.00 6.06 4.97	$2.18 3.22 2.57	$3.50 5.00 1.88

Subtract these numbers and check the work:

6.	$5.53 .83	$2.84 .49	$4.04 1.98	$1.46 .52	$3.05 .99
7.	$2.00 .46	$3.66 1.88	$5.00 4.38	$9.15 6.17	$8.40 3.96
8.	$7.22 1.88	$9.39 4.80	$7.00 6.29	$9.08 3.88	$7.00 5.97
9.	$4.00 2.22	$8.00 5.91	$6.01 3.09	$9.00 7.65	$6.92 2.75

HOW TALL IS ANN?

1. Ann wants to know how tall she is. The boys are measuring to find out. Joe uses a stick 3 feet long. This is called a yardstick. There are 3 feet in 1 yard. Joe finds that Ann is 3 feet 6 inches tall.

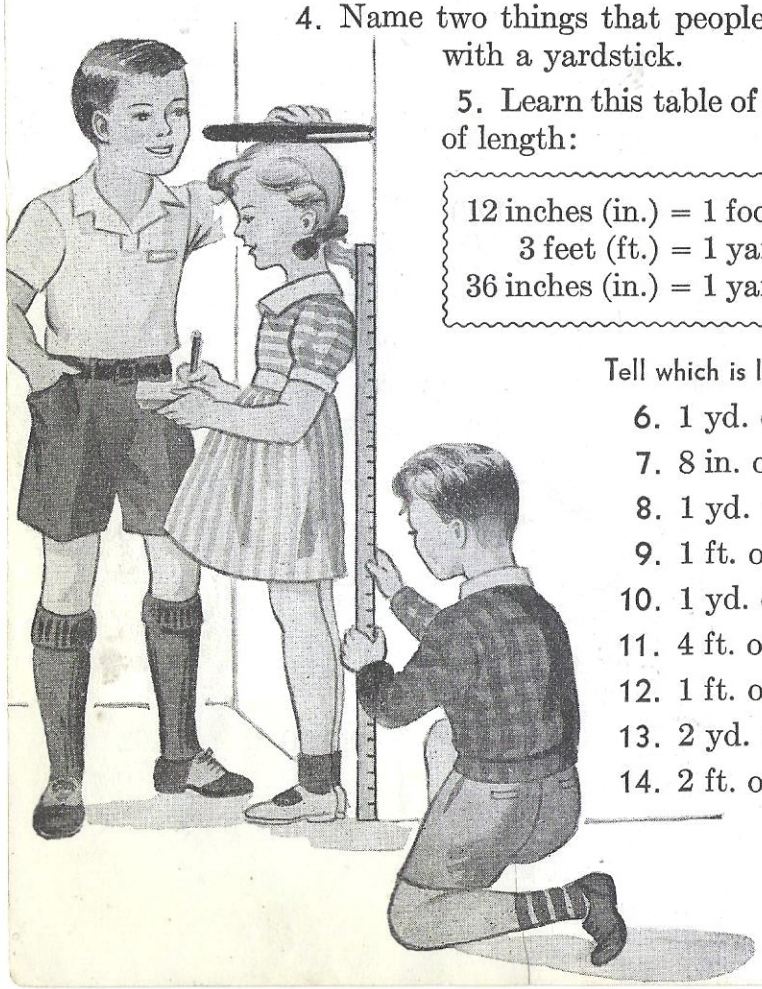
2. With a yardstick measure a boy and a girl in your class. Tell how many feet and inches tall each one is.

3. How many inches are there in 1 foot? How many feet are there in 1 yard? How many inches are there in 1 yard? If you do not know, tell how you find out by multiplying.

4. Name two things that people measure with a yardstick.

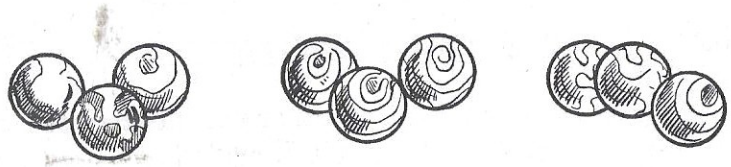
5. Learn this table of measures of length:

12 inches (in.)	= 1 foot (ft.)
3 feet (ft.)	= 1 yard (yd.)
36 inches (in.)	= 1 yard (yd.)



Tell which is longer:

6. 1 yd. or 1 ft.
7. 8 in. or 1 ft.
8. 1 yd. or 34 in.
9. 1 ft. or 15 in.
10. 1 yd. or 40 in.
11. 4 ft. or 1 yd.
12. 1 ft. or 11 in.
13. 2 yd. or 5 ft.
14. 2 ft. or 1 yd.



BUYING MARBLES

1. At the store Tom can buy 3 marbles for 1¢. How many marbles can he buy for 3¢? To find out, Tom adds three 3's. How many are three 3's? How many are 3×3?

$$\begin{array}{r} 3 \\ 3 \\ 3 \\ \hline 9 \end{array}$$

2. How many marbles can Tom get for 4¢? Add four 3's to find out. How many are 4×3? How many marbles can Tom get for 5¢? How many are 5×3? 6×3? 7×3? 8×3? 9×3?

$$\begin{array}{r} 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ \hline 3 \end{array} \qquad \begin{array}{r} 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ \hline 3 \end{array}$$

3. Jack says it takes too much time to add nine 3's. He says it is easier to remember that $9 \times 3 = 27$. When you say that nine 3's are 27, or that eight 3's are 24, you are multiplying.

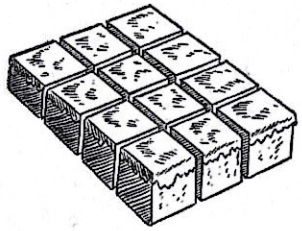
Tell the answers:

4. 2×3	3×3	4×3	5×3
5. 6×3	7×3	8×3	9×3

6. A lollipop costs 3¢. How much must Peggy pay for 6 lollipops? for 8 lollipops?

7. Betty made 3 dresses for each one of her dolls. She has 4 dolls in all. How many dresses did Betty make for her dolls?

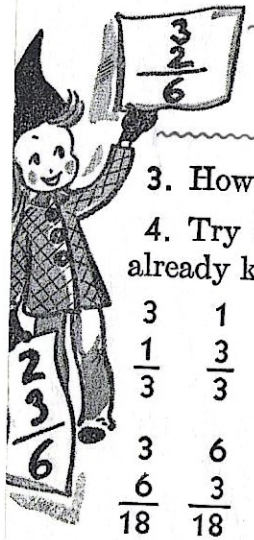
8. Betty is going to put 3 buttons on some of the dresses that she made. How many buttons will she need for 7 dresses? for 9 dresses?



1. Mother baked a chocolate cake for Mary's birthday. She cut it in pieces as shown in the picture. How many pieces did she have? Count them.

2. Joe says there are 4 rows and 3 pieces in each row. How many are 4×3? Mary says there are 3 rows and 4 pieces in each row. How many are 3×4? Is 4×3 the same as 3×4? The numbers in 3×4 are the same as those in 4×3 but they are turned around.

$$\begin{array}{r} 3 \\ \underline{4} \\ 12 \end{array} \qquad \begin{array}{r} 4 \\ \underline{3} \\ 12 \end{array}$$



If two numbers are turned around, their product is still the same.

3. How many are 6×3? How many are 3×6?

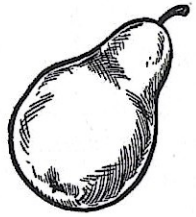
4. Try to remember these multiplication facts. You already know the first four facts:

$$\begin{array}{r} 3 \\ \underline{1} \\ 3 \end{array} \quad \begin{array}{r} 1 \\ \underline{3} \\ 3 \end{array} \quad \begin{array}{r} 3 \\ \underline{2} \\ 6 \end{array} \quad \begin{array}{r} 2 \\ \underline{3} \\ 6 \end{array} \quad \begin{array}{r} 3 \\ \underline{4} \\ 12 \end{array} \quad \begin{array}{r} 4 \\ \underline{3} \\ 12 \end{array} \quad \begin{array}{r} 3 \\ \underline{5} \\ 15 \end{array} \quad \begin{array}{r} 5 \\ \underline{3} \\ 15 \end{array} \quad \begin{array}{r} 3 \\ \underline{3} \\ 9 \end{array}$$

$$\begin{array}{r} 3 \\ \underline{6} \\ 18 \end{array} \quad \begin{array}{r} 6 \\ \underline{3} \\ 18 \end{array} \quad \begin{array}{r} 3 \\ \underline{7} \\ 21 \end{array} \quad \begin{array}{r} 7 \\ \underline{3} \\ 21 \end{array} \quad \begin{array}{r} 3 \\ \underline{8} \\ 24 \end{array} \quad \begin{array}{r} 8 \\ \underline{3} \\ 24 \end{array} \quad \begin{array}{r} 3 \\ \underline{9} \\ 27 \end{array} \quad \begin{array}{r} 9 \\ \underline{3} \\ 27 \end{array}$$

5. Mother buys 3 quarts of milk every day. How many quarts of milk does she buy in 7 days?

6. Jack says that a small lollipop costs 3¢. How much will 2 of these lollipops cost?



1. Mary says that 1 pear costs 3¢. 2 pears cost . . . ¢. 6 pears cost . . . ¢. 8 pears cost . . . ¢.

2. At 3¢ each, what will it cost to buy 3 pads? 7 pads? 9 pads? 5 pads? 4 pads?

3. Nancy feeds her rabbit 3 carrots a day. How many carrots does she feed her rabbit in 4 days? in 6 days? in 7 days? in 9 days?

4. Bill has 9 tomato plants in each of 3 rows. How many plants has he all together?

5. Tom forgets the answer to 3×7. He turns the numbers around and gets 7×3. He remembers that $7 \times 3 = \ldots$, so $3 \times 7 = \ldots$

Multiply these numbers:

6.	3	0	3	3	1	3	3	9	4
	7	3	9	3	3	8	2	3	3
7.	2	3	3	7	3	6	8	5	3
	3	5	1	3	4	3	3	3	6

Give the answer to each:

8.	3×5	3×7	3×4	3×8	9×3
9.	2×3	8×3	3×9	6×3	5×3
10.	3×1	3×6	3×3	3×2	7×3

11. What do you do if you forget 3×8? if you forget 3×9? if you forget 3×6?

PROBLEMS

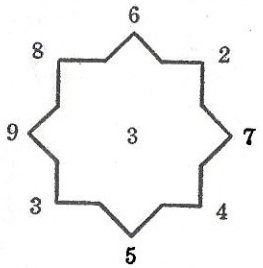
1. Alice can make 3 roses from 1 sheet of paper. How many roses can she make from 6 sheets of paper?

2. Mother made 3 sandwiches for each child to take on a picnic. How many sandwiches in all did she make for 8 children?

3. Joe pays $9 to stay at camp each week. How much does he pay to stay 3 weeks?

4. Nancy wrote 5 letters. She paid 3¢ for each stamp that she put on the letters. How much did she pay for 5 stamps?

5. At 3¢ each, how much must Bill pay for 4 stamps? for 7 stamps? for 8 stamps?



6. Point to each number on the star and multiply it by 3. As you point to each number say the answer only. Then multiply 3 by each number on the star.

7. Try this again and add 1 to the answer after you multiply, like this: $3 \times 9 = 27$; $27 + 1 = 28$. Say only "28." Try this again and add 2.

Tell what numbers should be put in the spaces:

8.	$3 \times \ldots = 3$	$3 \times \ldots = 9$	$\ldots \times 3 = 6$
9.	$3 \times \ldots = 27$	$3 \times \ldots = 6$	$\ldots \times 3 = 27$
10.	$3 \times \ldots = 12$	$6 \times \ldots = 18$	$\ldots \times 3 = 21$
11.	$3 \times \ldots = 24$	$3 \times \ldots = 15$	$\ldots \times 3 = 12$

1. Bob bought 3 bags of marbles. Each bag had 24 marbles in it. How many marbles did Bob buy?

2. Bill bought 3 large bags of marbles. There were 36 marbles in each bag. How many marbles did he buy?

3. How many marbles are there in 3 bags of 15 marbles each? in 3 bags of 40 marbles each?

Multiply. Check the work by going over it again:

4.	26	35	84	90	44	75	92
	3	3	3	3	3	3	3
5.	64	41	55	36	60	72	83
	3	3	3	3	3	3	3
6.	85	50	15	82	76	34	65
	3	3	3	3	3	3	3
7.	25	16	43	80	91	56	74
	3	3	3	3	3	3	3

1. Joe's father took Joe and Ann to the circus. He bought 3 tickets and paid $.78 for each ticket. How much did he pay in all?

You must multiply 78 by 3. This time you have to carry 2.

Think "3 × 8 = 24." Write 4 and carry 2. Think "3 × 7 = 21. 21 + 2 (carried) = 23." Write 23. The tickets cost $2.34. Check the work by going over it again.

$.78
3
$2.34

2. There were 3 busses to take the third grade children to visit a large farm. 48 children rode in each bus. How many children rode in the 3 busses?

Multiply. Check the work by going over it again:

3. 38	47	29	$.33	217	103	$1.19
3	3	3	7	3	9	3
4. 56	23	78	$.97	125	249	$1.13
3	8	3	3	3	2	7
5. 76	68	13	$.49	308	209	$3.27
2	3	7	2	3	3	2
6. 33	88	67	$.95	324	103	$2.37
9	2	3	2	3	8	2
7. 65	12	59	$.23	102	113	$1.03
2	9	3	6	8	7	5
8. 22	54	13	$.32	308	123	$2.13
7	3	4	5	3	4	6

Tell the numbers to put in the spaces:

1. 8 dimes = . . . ¢ 1 dime and 1 nickel = . . . ¢
2. 3 nickels = . . . ¢ 1 quarter and 1 dime = . . . ¢
3. 2 quarters = . . . ¢ 1 nickel and 3 cents = . . . ¢

Multiply. Then add 1 to each answer:

4. 7 × 2	6 × 3	2 × 8	2 × 6	3 × 0
5. 3 × 4	4 × 2	3 × 7	8 × 3	2 × 5
6. 5 × 3	9 × 3	2 × 0	2 × 9	3 × 3

7. Multiply the numbers in ex. 4 to 6 again. Then add 2 to each answer.

Say the answers. Watch the signs:

8. 5 + 9	9 − 1	3 + 8	5 × 2	8 × 2
9. 8 − 2	3 × 5	7 − 0	5 + 6	6 − 3
10. 7 + 7	8 − 4	6 × 2	3 × 1	9 − 4
11. 2 × 3	9 + 6	2 × 2	7 × 3	15 − 7
12. 1 × 2	3 × 9	9 + 9	6 + 7	12 − 4
13. 3 × 6	7 − 5	3 × 3	0 + 9	8 × 3
14. 9 + 4	9 × 2	2 × 7	4 × 3	6 − 6
15. 2 + 8	3 × 8	9 + 8	4 + 8	5 × 2

16. How many rabbits are 10 rabbits less 3 rabbits?
17. How many flowers are 2 dozen flowers?
18. What is the cost of 9 plums at 3¢ each?
19. How many fourths are there in a whole cake?

NEW WORK IN CARRYING

1. Tom helps Mr. Wood in his store and earns $2.50 each week. How much does Tom get in 3 weeks?

You must multiply $2.50 by 3. This time you must carry from the tens place to the hundreds place.

Think "3 × 0 = 0." Write 0. Think "3 × 5 = 15." Write 5 and remember the 1 to be carried. Think "3 × 2 = 6. 6 + 1 (carried) = 7." Write 7. Tom gets $7.50 in 3 weeks.

$$\begin{array}{r} \$2.50 \\ 3 \\ \hline \$7.50 \end{array}$$

2. In the second step of the work above, you thought "3 × 5 = 15." Did the 15 stand for 15 tens or 15 ones? When you carried 1 to the hundreds place, did the 1 stand for 1 hundred or 1 ten?

3. A new book about airplanes costs $1.50. Tom sold 3 of these books after school today. How much in all did he get for them?

4. Mr. Wood sold 5 books at $1.30 each. How much did he get for these books?

5. Mary earns $1.30 each week. How much does she earn in 6 weeks?

6. Jack pays $1.20 each week for school lunches. How much does he spend in 8 weeks?

7. Mother bought 2 sweaters, one for Mary and one for Sally. She paid $2.83 for each sweater. How much did she pay for both sweaters?

Multiplying three-figure numbers with carrying from the tens column.

PRACTICE IN MULTIPLYING

Multiply. Check the work by going over it again:

1.	131 × 8	231 × 5	130 × 8	842 × 3	232 × 4	131 × 7
2.	231 × 9	113 × 7	120 × 5	132 × 4	182 × 3	241 × 3
3.	103 × 8	320 × 7	273 × 3	372 × 2	263 × 2	171 × 3
4.	130 × 5	331 × 6	290 × 3	308 × 3	109 × 3	225 × 3
5.	320 × 9	543 × 3	130 × 9	291 × 3	671 × 3	252 × 3
6.	130 × 6	682 × 3	223 × 4	203 × 4	572 × 3	306 × 2
7.	131 × 9	120 × 8	709 × 2	170 × 2	262 × 3	192 × 3
8.	331 × 5	300 × 8	161 × 3	307 × 2	232 × 4	206 × 3
9.	340 × 3	491 × 2	120 × 6	121 × 5	203 × 8	653 × 3
10.	132 × 4	409 × 3	213 × 5	103 × 9	682 × 2	221 × 6
11.	320 × 7	415 × 2	230 × 4	173 × 2	321 × 5	248 × 2

Begin at the bottom and add up. Check the work:

1.	20	38	49	14	41	65	15
	93	65	50	79	66	47	46
	58	54	93	23	28	34	69
	25	61	32	74	49	50	21
2.	81	28	64	34	18	51	60
	27	99	40	63	27	79	22
	71	70	38	69	75	45	25
	49	12	87	36	54	18	49
3.	54	63	74	24	43	39	53
	75	98	69	67	88	40	66
	43	34	25	85	69	58	95
	88	27	83	35	51	66	17

4.	249	657	167	698	378	434
	56	687	184	57	783	769
5.	397	274	649	303	231	182
	178	203	120	308	507	418
	418	81	107	282	138	163
6.	76	155	309	726	505	410
	150	97	192	140	666	83
	276	419	130	58	704	419
7.	479	248	29	119	560	103
	151	713	228	297	39	577
	188	101	303	408	396	155
8.	520	273	343	106	97	346
	438	141	508	321	454	226
	139	472	718	499	348	269

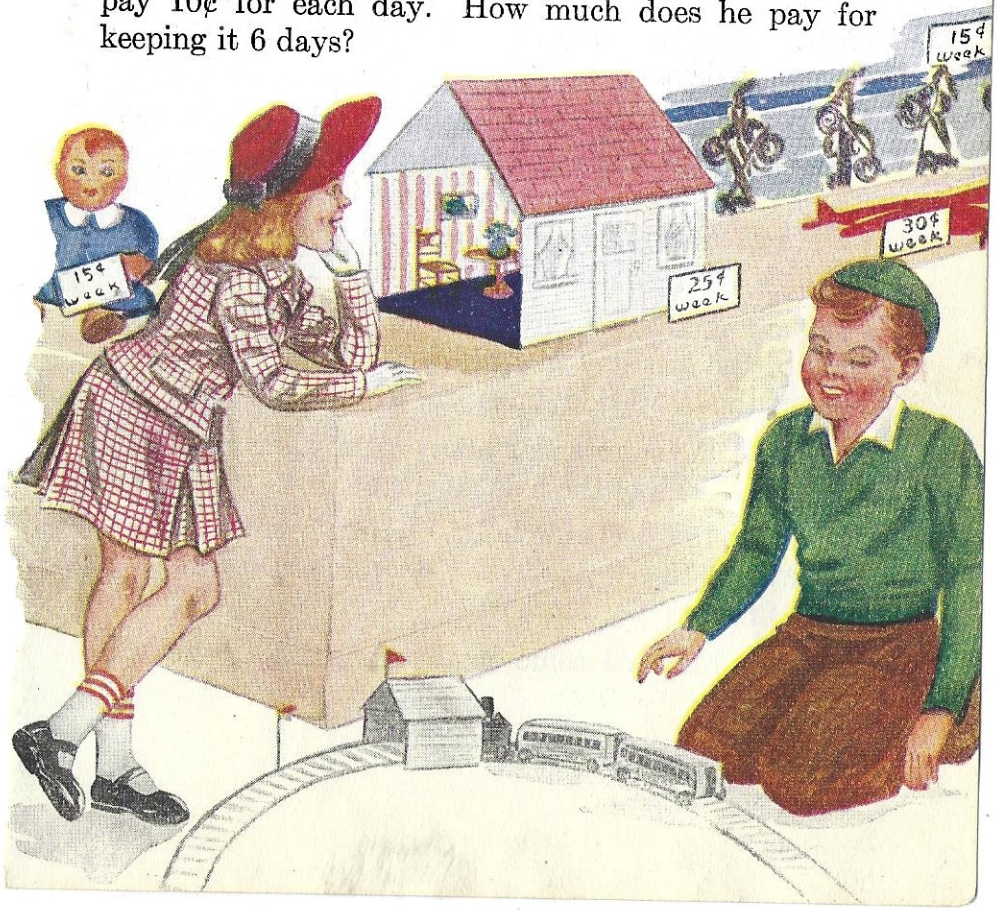
You can rent toys at Mr. White's shop.

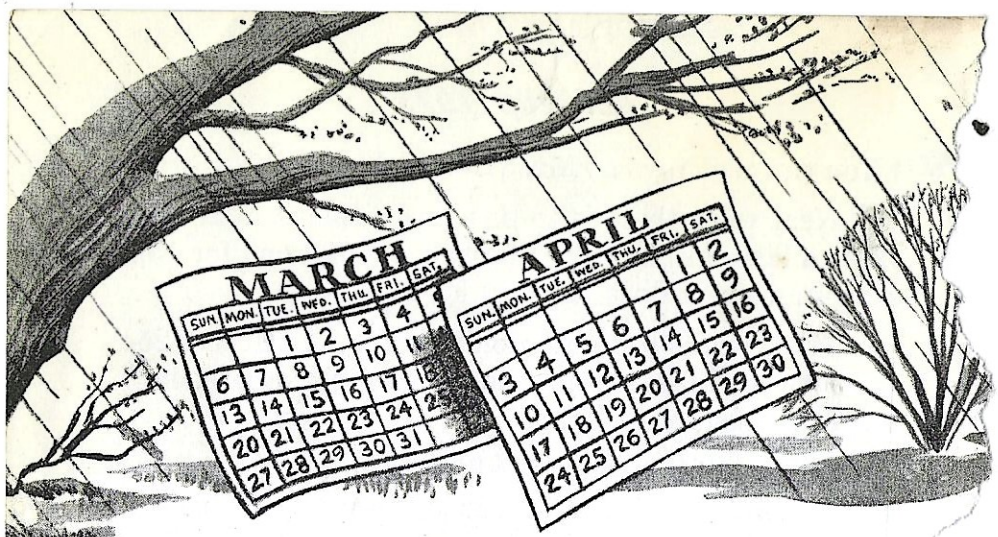
1. Next week there is to be a toy airplane race. Jim rents a large airplane for 30¢ and a small one for 15¢. How much rent does Jim pay for both?

2. Mary wants to rent a doll's house. It will cost 25¢ a week. If Mary keeps the house for 2 weeks, how much will she have to pay?

3. Jack rents a scooter for 35¢. Ann rents a pair of roller skates for 15¢. How much more rent does Jack pay than Ann?

4. Joe wants to rent a toy railroad set. He must pay 10¢ for each day. How much does he pay for keeping it 6 days?





THE CALENDAR

1. You see Sun., Mon., Tue., Wed., Thu., Fri., Sat. on the calendar. They stand for the days of the week. Name the days of the week.

2. How many days are there in March? The date of the first day in March is read *March one* or *March first.* The date of the last day in March is *March thirty-one* or *March thirty-first.* Read in two ways the date of the first Friday in March; of the last Friday in March.

3. How many days are there in April? What is the date of the last day in April? Read in two ways the date of the last Friday in April.

4. Look at the calendar above. On what day of the week does each of these dates come?

April 15	March 4	April twenty-first
March 10	April 7	March fifteenth
April 23	March 1	April twenty-fifth

5. Does March 1 come on the same day of the week as April 1?

Look at a calendar for this year to answer ex. 1 to 4:

1. How many days are there in January? in February? in May? in June? in July?

2. Find all the months that have 31 days. Name them. Does any month have more than 31 days?

3. Find all the months that have 30 days. Name them. Does any month have less than 30 days? If so, tell the name of the month.

4. On what day of the week does Christmas come? July Fourth? Thanksgiving Day? your birthday?

5. How many days are there in 1 week? in 2 weeks? in 3 weeks?

6. Suppose the first Tuesday in April is April 2. Without looking at the calendar, tell the date of the second Tuesday in April; of the third Tuesday in April. Is there a fourth Tuesday in April?

7. You can take a library book home for 2 weeks. You take out a book on April 4. On what date must you take the book back?

8. Suppose you take out a library book on each of the dates below. You may keep the book for 2 weeks. On what date must you take the book back?

January 12	May 5	August 11
September 2	June 16	November 9

9. May 3 is the date of the first Thursday in May. Tell the dates of all the other Thursdays in May.

10. One year June 29 came on Friday. How many Fridays were there in June that year?

MULTIPLYING BY 2 AND 3

Multiply. Check by going over the work again:

1. 206 × 2	228 × 3	125 × 2	272 × 3	328 × 2	239 × 2
2. 304 × 3	217 × 3	406 × 2	153 × 3	415 × 2	183 × 3
3. 116 × 3	271 × 3	216 × 2	306 × 3	370 × 2	209 × 3
4. 319 × 3	305 × 2	315 × 3	184 × 2	251 × 3	426 × 2
5. 207 × 3	318 × 3	329 × 2	309 × 3	471 × 2	128 × 3
6. 248 × 2	193 × 2	253 × 3	162 × 3	335 × 2	307 × 3
7. 391 × 2	400 × 2	273 × 2	216 × 3	163 × 3	240 × 3
8. 170 × 3	229 × 2	125 × 3	382 × 2	270 × 3	409 × 2
9. 294 × 2	143 × 3	463 × 2	509 × 3	507 × 2	480 × 3
10. 104 × 3	380 × 2	219 × 3	172 × 2	340 × 3	138 × 2
11. 253 × 2	506 × 3	605 × 2	260 × 3	146 × 2	451 × 3

PRACTICE IN ADDING

Begin at the bottom and add up. Check by adding down:

1. 5	4	1	1	6	7	5	2	3
0	7	9	0	5	0	3	6	2
4	8	0	8	6	4	9	5	4
9	3	8	2	3	9	7	3	9
4	2	6	9	7	8	4	8	7
2. 3	1	1	4	2	1	9	3	6
4	3	7	0	7	3	7	3	3
5	6	7	8	4	5	0	7	9
9	6	8	2	3	6	2	7	5
5	7	2	6	1	4	3	9	4
3. 7	4	2	1	2	8	1	2	2
9	6	0	9	4	5	8	2	4
0	8	6	5	5	9	4	6	9
2	3	9	8	0	4	6	4	7
1	4	9	4	8	2	9	8	5

Write these numbers in columns and add them:

4. 195 + 466
5. 190 + 142
6. 798 + 106
7. 383 + 417
8. 295 + 584
9. 647 + 159
10. 196 + 226
11. 185 + 752
12. 494 + 158
13. 92 + 8 + 16 + 27
14. 84 + 57 + 18 + 9
15. 6 + 97 + 63 + 28
16. 21 + 89 + 47 + 55
17. 35 + 42 + 7 + 38
18. 7 + 30 + 55 + 41
19. 26 + 99 + 30 + 52
20. 61 + 67 + 15 + 8
21. 9 + 86 + 23 + 62

If you subtract a number from another number, the answer is smaller than the other number. If you subtract 0 from a number, the answer is the same as the number.

1. Betty wants to make 22 valentines. She has made 16. How many more must she make?

2. Mother made 36 cookies yesterday. Today only 9 cookies are left. How many cookies did we eat?

3. Last week Dick earned 60¢. This week he earned 48¢. How much less did he earn this week than last week? How much more did he earn last week than this?

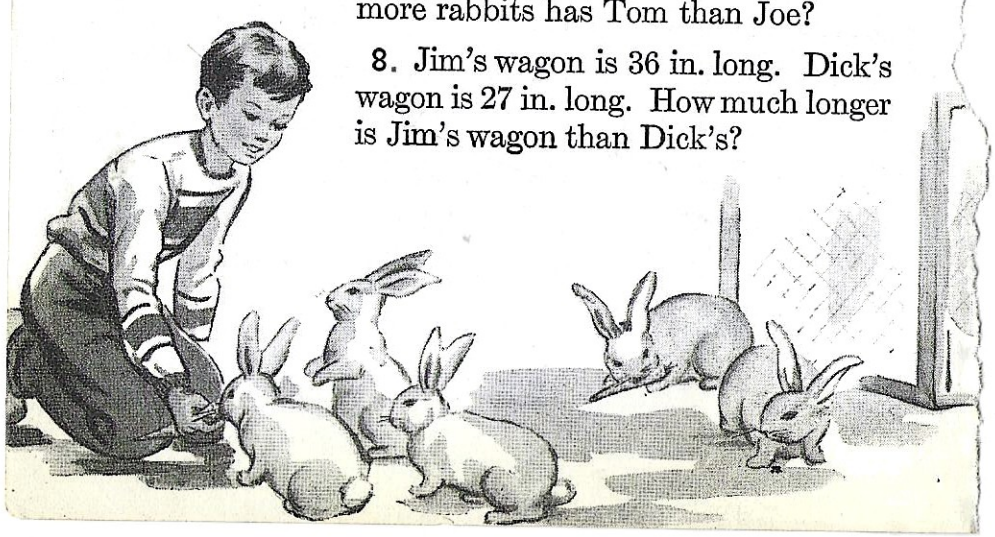
4. Jack has 13 rabbits. Five of them are black and the rest are white. How many white rabbits has he?

5. Mary bought some candy for 18¢. She paid for it with a half dollar. How much change did Mary get?

6. Jim earned 25¢ today. He has not spent any of it. How much of this money has he left?

7. Tom has 17 rabbits. Joe has 8 rabbits. How many more rabbits has Tom than Joe?

8. Jim's wagon is 36 in. long. Dick's wagon is 27 in. long. How much longer is Jim's wagon than Dick's?



In the problems on this page no questions have been asked. Make up a question for each problem so that it will be a subtraction problem. Then work the problem:

1. Joe is 12 years old. His brother Tom is 16.

2. Bill has 18¢. He wants a ball that costs 30¢.

3. Bob had 60 marbles. He gave 25 to Dick.

4. A ball costs 30¢. A top costs 10¢.

5. Jane bought a book for 35¢. She gave the man in the store a dollar bill.

6. Mother made 60 cookies. 24 of them were orange cookies. The rest were chocolate cookies.

7. Betty had 65¢. After she bought a box of paints she had 28¢ left.

8. Tom wants to buy a knife. He can get one for $.98 or one for $1.25.

LEARNING WHEN TO SUBTRACT

You subtract in problems that ask you

(*a*) to find how many are left.
(*b*) to find how much change you should get.
(*c*) to find how many are gone.
(*d*) to find how many more are needed.
(*e*) to find how much more or less one number is than another number.
(*f*) to find how much longer or shorter one thing is than another thing.
(*g*) to find the other part of a number.

Tell which is more:

1. 3 qt. or 7 pt.	1 doz. or 8 things
2. 6 ft. or 3 yd.	15¢ or 2 nickels
3. 1 dime or 8¢	11 in. or 1 ft.
4. 50¢ or a quarter	48 in. or 2 yd.
5. 9 eggs or ½ doz. eggs	65¢ or 8 dimes

Tell which one is the right answer:

6. Which one is quarter to four? 4:15 3:45
7. Which one is the Roman number for 9? IX XII
8. Which one is equal to a yard? 5 ft. 3 ft.
9. Which one is shorter than a foot? 10 in. 15 in.
10. Which one is longer than a yard? 40 in. 28 in.
11. Which one is more than a dozen? 10 18
12. Which one is equal to a dozen? 8 12
13. Which one is the seventh month? May July
14. Which one is equal to a quart? 4 pt. 2 pt.
15. Which one is equal to 3 quarters? 60¢ 75¢
16. Which one is shorter than a yard? 44 in. 14 in.
17. Which one is more than a quart? 3 pt. 1 pt.
18. Which one is equal to a dollar? 10 dimes 86¢
19. Which one makes more glasses of milk? 1 qt. 1 pt.
20. Which one is the larger piece of pie? ½ pie ¼ pie
21. Which one is equal to a foot? 36 in. 12 in.

1. Mother bought 2 dozen eggs at 45¢ a dozen. How much did she pay for the eggs?

2. This morning Jane's mother made 24 sugar cookies, 36 nut cookies, and 25 chocolate cookies. How many cookies did she make all together?

3. Joe is 56 inches tall. Mary is 48 inches tall. How many inches taller than Mary is Joe?

4. Jim bought some seeds for $1.65. He gave the man $2.00. How much change did Jim get?

5. Mary bought 3 boxes of cookies for her party. Each box had 27 cookies in it. How many cookies were there in all?

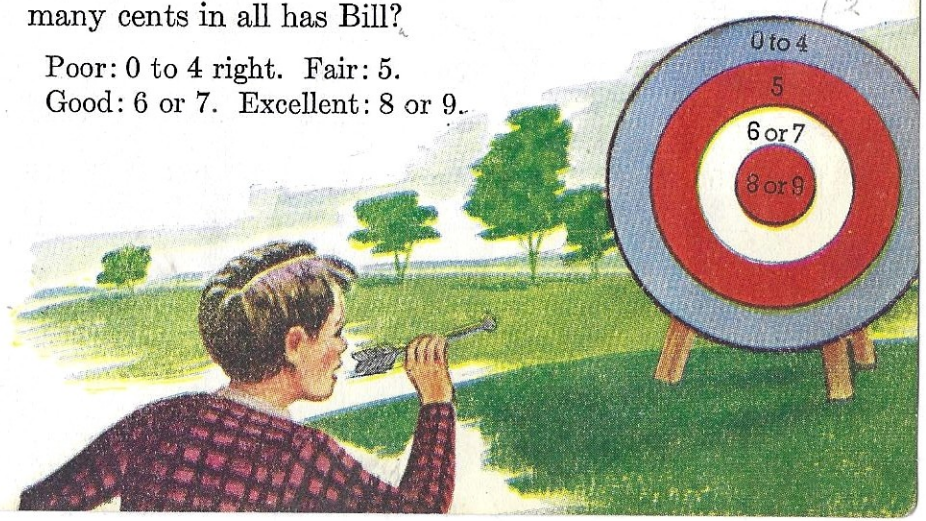
6. Tom wants to buy a book that costs $2.45. He can pay $1.48 toward it. Mary says she will pay the rest. How much will Mary pay?

7. Jane bought a book for $.75, a puzzle for $.45, and crayons for $.35. How much did these things cost?

8. Jack had $1.40. He spent all but $.16. How much did he spend?

9. Bill has a half dollar, 2 dimes, and 2 nickels. How many cents in all has Bill?

Poor: 0 to 4 right. Fair: 5.
Good: 6 or 7. Excellent: 8 or 9.



1. Which is longer, 1 yard or 1 foot?
2. How many inches are there in 3 ft.? in 2 yd.?
3. Make change from 50¢ for things that cost:

21¢ 42¢ 36¢ 9¢ 14¢ 28¢

Tell the numbers that go in the spaces:

4. $4\times3=3\times\ldots$ $3\times7=7\times\ldots$ $2\times3=3\times\ldots$
5. $1\times3=3\times\ldots$ $3\times6=6\times\ldots$ $9\times3=3\times\ldots$

Subtract these numbers and check:

6.	586	409	903	$4.50	$9.61	$2.55
	219	363	798	.74	1.08	2.47
7.	711	237	174	$1.75	$6.24	$8.04
	505	47	87	.96	3.60	5.96
8.	600	225	712	$2.09	$1.85	$6.78
	573	135	409	.92	.29	3.24

Multiply. Check the work by going over it again:

9.	23	40	33	125	317	108
	5	3	9	3	3	3
10.	30	23	32	290	131	213
	7	8	6	3	7	4
11.	65	30	22	293	103	172
	3	8	9	2	2	3
12.	30	86	74	213	230	215
	5	2	3	7	4	3

If you miss more than one example in any row, turn to the Practice Pages for that row.

Subtract these numbers and check your work:

						PRACTICE PAGES
1.	468	393	482	981	746	192, 193
	129	66	418	502	317	
2.	526	667	308	945	739	197
	270	491	114	595	178	
3.	970	356	526	152	700	199, 200
	164	351	218	73	350	
4.	451	940	823	634	513	202
	296	341	255	337	369	
5.	800	600	900	202	700	204
	429	198	206	99	102	
6.	$4.20	$5.10	$1.50	$3.12		203
	3.52	3.27	.89	2.03		

Multiply and check the work:

7.	94	46	625	218	113	212
	3	3	3	3	6	
8.	231	320	493	271	193	215
	5	8	2	3	3	
9.	308	290	250	427	273	220
	3	2	3	2	3	

Diagnostic test.

CHAPTER SEVEN

Learning How to Divide

LOVEBIRDS

1. Mr. West bought 18 little lovebirds to sell in his pet shop. When they came he put them in cages. He put 2 birds in each cage. How many cages did he need for 18 birds? How many 2's make 18?

2. If Mr. West buys 16 lovebirds and puts 2 birds in each cage, how many cages will he need? How many 2's are there in 16?

3. Mary says that there are eight 2's in 16 because $8 \times 2 = 16$. Is Mary right?

4. How many cages will he need for 10 lovebirds? How many 2's are there in 10?

5. Peter says that there are five 2's in 10 because $5 \times 2 = 10$. Is Peter right?

6. Another way to say that 10 divided into 2's gives five 2's is "10 divided by 2 is 5." A short way to write it is like this: $10 \div 2 = 5$. The sign $\div$ means *divided by*.

7. When you find how many 2's there are in 10, you are *dividing*.

1. A short way to write $10 \div 2 = 5$ is shown at the right. This short way is also read "10 divided by 2 is 5." The answer 5 is called the *quotient.*

$$\begin{array}{r} 5 \\ 2\overline{)10} \end{array}$$

2. $2\overline{)8}$ means $8 \div 2$. It also means "How many 2's in 8?" What does $2\overline{)12}$ mean? $2\overline{)16}$?

3. How many are 6×2? How many 2's make 12? How many are $12 \div 2$? What is the answer to $2\overline{)12}$?

4. How many are 9×2? How many 2's make 18? What does $18 \div 2$ equal? What does $2\overline{)18}$ equal?

Tell the answers:

5. $7 \times 2 = 14$, so $14 \div 2 = \ldots$
6. $5 \times 2 = \ldots$, so $10 \div 2 = \ldots$
7. $8 \times 2 = \ldots$, so $16 \div 2 = \ldots$
8. $6 \times 2 = \ldots$, so there are ... 2's in 12.
9. $9 \times 2 = \ldots$, so there are ... 2's in 18.
10. $3 \times 2 = \ldots$, so there are ... 2's in 6.
11. $4 \times 2 = \ldots$, so there are ... 2's in 8.

12. A stick of candy costs 2¢. How many sticks can you buy for 10¢? How many 2's are there in 10?

13. Marbles cost 2¢ each. How many marbles can Joe buy for 18¢? How many are $2\overline{)18}$?

14. How many 2-cent stamps can Mary buy for 14¢? How many 2's are there in 14?

15. If you want to find the answer to $2\overline{)16}$, think "How many 2's make 16?"

1. Learn these division facts for 2. The first fact is read, "2 divided by 2 is 1."

$$\begin{array}{r} 1 \\ 2\overline{)2} \end{array} \quad \begin{array}{r} 2 \\ 2\overline{)4} \end{array} \quad \begin{array}{r} 3 \\ 2\overline{)6} \end{array} \quad \begin{array}{r} 4 \\ 2\overline{)8} \end{array} \quad \begin{array}{r} 5 \\ 2\overline{)10} \end{array}$$

$$\begin{array}{r} 6 \\ 2\overline{)12} \end{array} \quad \begin{array}{r} 7 \\ 2\overline{)14} \end{array} \quad \begin{array}{r} 8 \\ 2\overline{)16} \end{array} \quad \begin{array}{r} 9 \\ 2\overline{)18} \end{array}$$

2. Read each of the division facts in ex. 1. Which division fact says that there are five 2's in 10? Which fact tells how many 2's there are in 16? How many are there?

3. Which division fact in ex. 1 comes from $7 \times 2 = 14$? Which division fact comes from $4 \times 2 = 8$?

4. This morning Bill bought a bunch of 10 carrots. If he feeds his rabbit 2 carrots each day, how many days will the carrots last?

5. Sally picked 12 yellow flowers in her garden. She put them in bunches with 2 flowers in each bunch. How many bunches of flowers did Sally make?

6. Read these and give the answers:

$2\overline{)8}$ $2\overline{)12}$ $2\overline{)18}$ $2\overline{)16}$ $2\overline{)10}$ $2\overline{)14}$ $2\overline{)6}$

If you forget the answer to a fact, like $14 \div 2$, think "How many 2's make 14?"

7. The division facts can be written in a table like this. Tell the answers:

$2 \div 2 = \ldots$	$8 \div 2 = \ldots$	$14 \div 2 = \ldots$
$4 \div 2 = \ldots$	$10 \div 2 = \ldots$	$16 \div 2 = \ldots$
$6 \div 2 = \ldots$	$12 \div 2 = \ldots$	$18 \div 2 = \ldots$

PAINTING BOOK COVERS

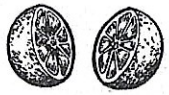
1. The children are painting book covers. They use 2 covers for each book. Mary has painted flowers on 10 covers. For how many books has Mary painted the covers? How many 2's are there in 10?

2. Joe has painted trees on 8 covers. Joe's covers are enough for how many books? How many 2's are there in 8? How many are $2\overline{)8}$?

3. Yesterday Peter painted animals on 12 covers. These 12 covers can be used for how many books? How many 2's are there in 12?

4. Sally has put covers on 7 books. How many covers did she use? Each book has 2 covers on it.

5. How many books can be made from 18 covers? from 16 covers? from 6 covers?



1. This orange is cut into *halves*. These halves are equal. This means that these halves are the same size. *Equal* means the same in size. When you cut a whole thing, like an orange, into 2 equal parts, each part is called *one half* of the whole. A short way to write *one half* is like this: $\frac{1}{2}$.

2. Joe cut an orange into 2 pieces. Are these pieces equal in size? Did he cut the orange into halves?

3. These chocolate rabbits are divided into 2 groups. How many rabbits are there in each group? Are the groups equal in size? When 8 rabbits are divided into 2 equal groups, each group is one half of 8 rabbits.

4. If there were 5 rabbits in one group and 3 rabbits in the other group, would the groups be equal in size? Would each group be half of 8?

5. You see that $\frac{1}{2}$ of 8 rabbits are 4 rabbits. Another way of writing "$\frac{1}{2}$ of 8" is $8 \div 2$. Here $8 \div 2$ means that 8 has been divided into 2 equal parts. To find $\frac{1}{2}$ of 8, you divide 8 by 2.

> To find $\frac{1}{2}$ of a number, divide it by 2.

Find the answers to these:

6.	$\frac{1}{2}$ of 4	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 6	$\frac{1}{2}$ of 10
7.	$\frac{1}{2}$ of 8	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 2	$\frac{1}{2}$ of 14

1. Mary has 16 roses which she is putting in vases for the lunch room. If she puts 2 roses in each vase, how many vases will she need?

2. Bob has 10 marbles. He wants to give half of them to Jim. How many marbles will he give to Jim?

3. Jack has 2 boxes of crayons. There are 8 crayons in each box. How many crayons has he all together?

4. Peggy has 8¢ to buy lollipops. If each lollipop costs 2¢, how many can she buy?

5. Jane bought a card of 12 buttons. She needs 2 buttons for each doll's dress. She has buttons enough for how many dresses?

6. Fred has 18 little chicks. Half of them are black. How many black chicks has Fred?

7. Betty had 14 gumdrops. She gave her brother $\frac{1}{2}$ of them. How many gumdrops did she give him?

8. Bill took Tom to the movies. If 1 ticket cost 25¢, how much did Bill pay for the 2 tickets?

9. Jane has 10¢ to spend for pencils. If she pays 2¢ for each pencil, how many pencils can she buy?

10. Dick and Tom bought a bag of candy for 16¢. Each paid $\frac{1}{2}$ of the cost. How much did each pay?

11. Our school bus made 2 trips this morning. It carried 33 children on each trip. How many children did the bus carry in all?

12. Alice wants to save enough money to buy 2 books that cost $1.50 each. How much money must Alice save to buy these 2 books?

Add these numbers and check the work:

1.	218	359	124	266	146	343	
	248	477	276	132	248	274	
2.	417	379	264	495	789	379	
	237	194	404	219	168	553	
3.	505	289	636	280	453	761	
	466	249	327	650	194	268	
4.	57	27	84	49	30	96	68	93
	20	36	28	43	37	15	46	42
	44	21	11	28	61	44	24	59
5.	87	66	86	74	48	53	45	75
	18	93	76	68	74	58	68	23
	31	15	50	45	23	70	16	98
	42	55	25	37	59	29	55	34
6.	17	25	24	10	24	55	84	32
	63	79	79	59	37	66	42	57
	70	32	36	38	58	34	78	89
	59	71	36	43	61	27	19	66

Add 5 to each of these numbers; add 6; add 8:

7.	45	68	39	17	26	84	53	78
8.	21	59	14	76	55	38	87	42
9.	91	70	62	33	28	47	19	36
10.	85	64	90	37	72	63	13	18
11.	56	48	29	65	83	77	34	12
12.	75	16	88	49	27	32	54	93

Subtract these numbers and check the work:

1.	953	507	704	531	759	911
	256	389	107	292	386	404
2.	502	825	911	676	700	803
	193	86	326	189	356	595
3.	438	627	690	833	690	554
	89	571	487	367	251	26
4.	912	496	803	314	817	826
	435	467	690	108	257	439
5.	900	412	329	963	605	944
	105	291	43	254	381	779
6.	569	300	154	240	819	845
	267	103	44	234	471	287
7.	603	571	292	274	953	739
	189	481	36	86	135	686
8.	824	597	710	816	500	262
	357	328	460	749	296	153
9.	306	474	801	705	651	673
	168	225	118	429	377	328
10.	732	826	978	712	430	662
	559	137	281	558	172	377
11.	639	502	700	850	321	923
	284	123	204	647	226	354

Each child in Betty's class made up a problem about nature study. Here are some of them. Can you answer the question in each problem?

1. Ann said, "On the way to school, I saw 3 bluebirds, 8 robins, and 4 wrens. How many birds did I see?"

2. Jack asked, "How many polliwogs have I in this jar? I caught 70 in all but 8 of them were lost when I put them in the jar."

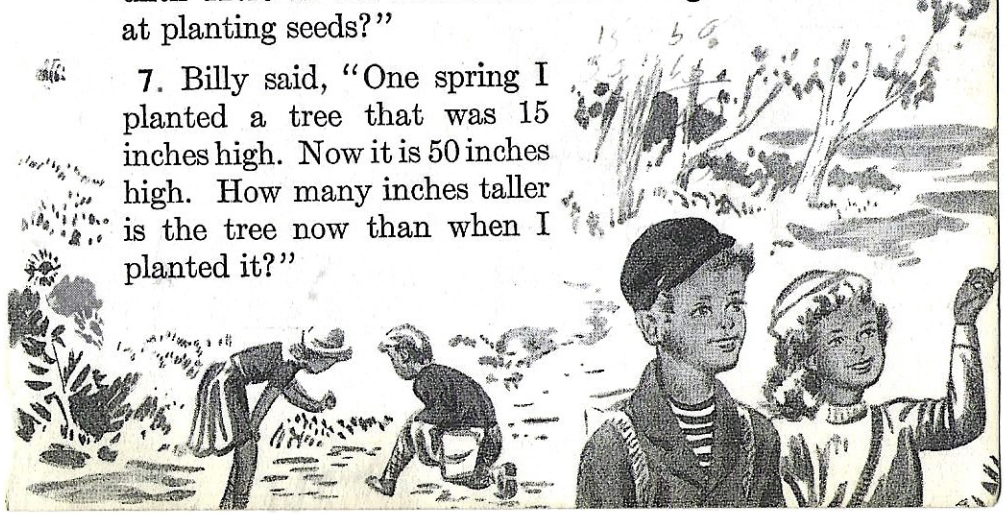
3. Betty said, "Last fall I found 14 cocoons. So far only half of them have opened. How many cocoons have opened?"

4. Bill said, "All the bulbs I planted last fall are coming up. There are 25 bulbs in one flower bed and 36 in another. How many bulbs did I plant?"

5. Tom said, "Fred and I went to Uncle Jack's farm last Saturday. The postman brought him 3 boxes of baby chicks. There were 75 chicks in each box. How many chicks did he get?"

6. Fred said, "At the farm Tom and I planted seeds for Uncle Jack. We worked from 9:00 in the morning until 12:15 in the afternoon. How long did we work at planting seeds?"

7. Billy said, "One spring I planted a tree that was 15 inches high. Now it is 50 inches high. How many inches taller is the tree now than when I planted it?"



1. Tom can put 15 tomato plants in a row. He wants 3 rows. How many plants will he need?

2. Nancy wants to make candy for the school fair. She can put 12 pieces of candy in each box. How many pieces of candy must she make to fill 8 boxes?

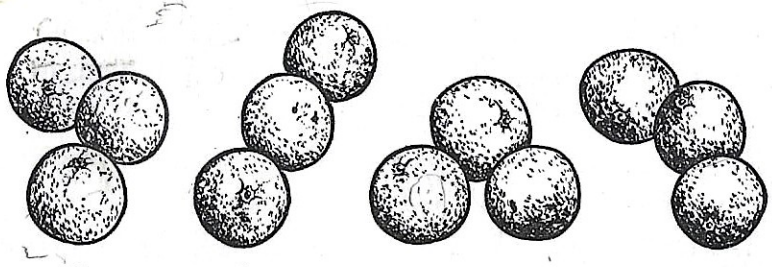
3. Jack bought 2 books. Each book cost $.65. How much in all did he pay for the books?

4. Betty bought 3 boxes of cookies for her party. Each box had 18 cookies in it. How many cookies were there in all?

5. Bill bought 2 packages of stamps for his stamp book. Each package had 60 stamps in it. How many stamps did Bill buy?

Multiply. Check the work by going over it again:

6.	39 × 3	23 × 8	87 × 3	13 × 9	126 × 3	218 × 3	325 × 3
7.	47 × 2	98 × 2	38 × 3	54 × 3	346 × 2	120 × 9	405 × 2
8.	23 × 6	79 × 2	32 × 5	67 × 3	129 × 3	230 × 4	238 × 2
9.	21 × 8	23 × 7	56 × 2	48 × 3	207 × 3	326 × 3	203 × 6
10.	23 × 4	31 × 6	75 × 3	36 × 2	213 × 5	321 × 7	342 × 3
11.	65 × 3	29 × 3	28 × 2	32 × 8	118 × 3	103 × 9	351 × 3



1. Nancy bought 12 oranges for her mother. The family eats 3 oranges every day. Nancy wanted to know how many days the 12 oranges would last. She put the 12 oranges on the table and divided them into 3's as shown above. How many 3's in 12? How many days will the oranges last?

2. Joe has saved $15 for a bicycle. He saved $3 every month. How many months did it take him to save $15? How many 3's make 15?

3. Jack says there are five 3's in 15 because $5 \times 3 = 15$. Is he right? How many are $3\overline{)15}$?

4. $8 \times 3 = 24$. How many 3's are there in 24? How many are $24 \div 3$? How many are $3\overline{)24}$?

5. Mary wants to know how many 3's there are in 18. So she thinks, "How many 3's make 18?" She says, "$6 \times 3 = 18$, so there are six 3's in 18." What does $3\overline{)18}$ equal?

Tell the answers:

6. $3 \times 3 = 9$, so there are . . . 3's in 9.
7. . . . $\times 3 = 21$, so there are . . . 3's in 21.
8. . . . $\times 3 = 27$, so there are . . . 3's in 27.
9. . . . $\times 3 = 15$, so there are . . . 3's in 15.

1. Mary's mother gave her 15¢ to buy stamps. Each stamp costs 3¢. How many stamps can she get? How many 3's are there in 15?

2. At 3¢ each, how many marbles can Fred buy for 27¢? How many are 3)27?

3. Pencils cost 3¢ each. Jane has 9¢. How many pencils can she buy for 9¢?

4. Nancy has a piece of ribbon 12 feet long. 3 feet make 1 yard. How many yards of ribbon has Nancy? How many 3's are there in 12?

5. Betty has saved 21¢ to spend for candy. If she pays 3¢ for each chocolate stick, how many chocolate sticks can she buy?

Tell what numbers should be put in the spaces:

6.	. . . 3's are 24	. . . 3's are 6	. . . 3's are 9
7.	. . . 3's are 15	. . . 3's are 12	. . . 3's are 18
8.	. . . 3's are 27	. . . 3's are 21	. . . 3's are 24

Tell the answers to these division facts:

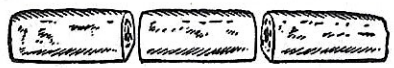
9.	21 ÷ 3 =	15 ÷ 3 =	24 ÷ 3 =	6 ÷ 3 =
10.	27 ÷ 3 =	12 ÷ 3 =	9 ÷ 3 =	3 ÷ 3 =

11. Remember these division facts:

$\overset{1}{3\overline{)3}}$ $\overset{2}{3\overline{)6}}$ $\overset{3}{3\overline{)9}}$ $\overset{4}{3\overline{)12}}$ $\overset{5}{3\overline{)15}}$

$\overset{6}{3\overline{)18}}$ $\overset{7}{3\overline{)21}}$ $\overset{8}{3\overline{)24}}$ $\overset{9}{3\overline{)27}}$

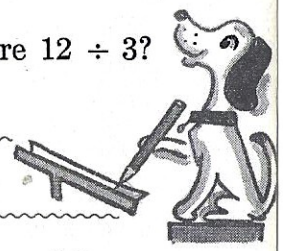
1. This chocolate bar is divided into 3 equal parts. When *one thing*, like a chocolate bar, is divided into 3 equal parts, each part is called *one third* of the whole. You write one third like this: $\frac{1}{3}$.



2. Betsy has 12 candy eggs. She divides them into 3 equal groups. Each group is *one third* of the 12 eggs. How many eggs are there in each group? How many are $\frac{1}{3}$ of 12 eggs?

3. Betsy gives $\frac{1}{3}$ of the eggs to Mary, $\frac{1}{3}$ to Tom, and keeps $\frac{1}{3}$ for herself. How many eggs does each child get?

4. How many are $\frac{1}{3}$ of 12? How many are 12 ÷ 3? You see that $\frac{1}{3}$ of 12 is the same as 12 ÷ 3.



To find $\frac{1}{3}$ of a number, divide it by 3.

5. Uncle Tom divides 6 apples equally among 3 boys. How many apples does each boy get?

Tell the answers to these:

6.	$\frac{1}{3}$ of 12	$\frac{1}{3}$ of 6	$\frac{1}{3}$ of 24	$\frac{1}{3}$ of 3
7.	$\frac{1}{3}$ of 21	$\frac{1}{3}$ of 9	$\frac{1}{3}$ of 27	$\frac{1}{3}$ of 18

MAKING PAPER FLOWERS

1. It takes 2 sheets of paper to make one rose. The girls have 48 sheets of red paper. How many red roses can they make?

Find how many 2's there are in 48 in this way: $\begin{array}{r} 24 \\ 2\overline{)48} \end{array}$

Think, "There are two 2's in 4." Write 2 over 4.
Think, "There are four 2's in 8." Write 4 over 8.
The girls can make 24 roses.

Check

$$\begin{array}{r} 24 \\ 2 \\ \hline 48 \end{array}$$

Check the work by multiplying 24 by 2. This gives 48 so the work is right.

2. The girls have 36 sheets of yellow paper. It takes 3 sheets of this paper to make 1 rose. How many yellow roses can they make?

3. Alice paid 28¢ for some green paper to make leaves. Each sheet of paper cost 2¢. How many sheets of paper did she buy?

DIVISION BY 2 AND 3

Divide. Check the work by multiplying:

1.	$2\overline{)62}$	$3\overline{)96}$	$2\overline{)26}$	$2\overline{)86}$	$2\overline{)22}$	$2\overline{)66}$
2.	$2\overline{)46}$	$2\overline{)82}$	$3\overline{)66}$	$2\overline{)28}$	$3\overline{)99}$	$2\overline{)84}$
3.	$2\overline{)68}$	$2\overline{)48}$	$2\overline{)64}$	$3\overline{)39}$	$2\overline{)44}$	$3\overline{)63}$

4. Alice had 248 beads. She gave $\frac{1}{2}$ of them to Jane. How many beads did she give Jane?

You must divide 248 by 2. Do the work as shown at the right. $\begin{array}{r} 124 \\ 2\overline{)248} \end{array}$

5. Bob has 363 stamps. He wants to sell $\frac{1}{3}$ of them. How many stamps will he sell?

6. Jack has 224 marbles. He is going to give $\frac{1}{2}$ of them to his brother Bill. How many marbles will he give Bill? How many are $\frac{1}{2}$ of 224?

Divide. Check the work by multiplying:

7.	$2\overline{)462}$	$2\overline{)286}$	$2\overline{)424}$	$2\overline{)664}$	$2\overline{)842}$	$2\overline{)642}$
8.	$2\overline{)862}$	$2\overline{)464}$	$2\overline{)622}$	$2\overline{)242}$	$2\overline{)826}$	$2\overline{)486}$
9.	$3\overline{)936}$	$3\overline{)693}$	$3\overline{)366}$	$3\overline{)633}$	$3\overline{)963}$	$3\overline{)699}$
10.	$3\overline{)336}$	$3\overline{)933}$	$3\overline{)636}$	$3\overline{)969}$	$3\overline{)696}$	$3\overline{)939}$

Division of two-figure and three-figure numbers, no carrying.

HOW MANY CAN YOU BUY?

1. Jane has 24¢. How many oranges can she buy if 1 orange costs 3¢?

2. Bob has 28¢ to spend for marbles which cost 2¢ each. How many marbles can he buy?

3. Mother gave Bill 36¢ to buy 3-cent stamps. How many stamps did Bill get with the money?

4. Mary can spend 12¢ for crayons. How many crayons can she get if 1 crayon costs 2¢?

5. Bill has 16¢. How many pencils at 2¢ each can Bill buy for 16¢?

6. Alice spent 15¢ for apples. If each apple cost 3¢, how many apples did Alice buy?

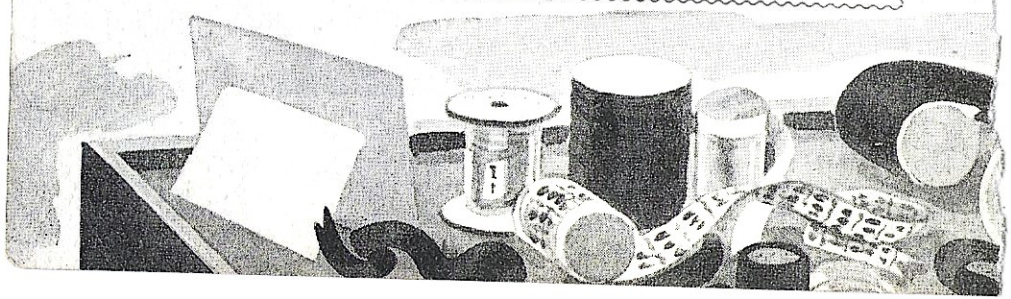
7. Nancy has 24¢ to spend for candy. Small lollipops are 2¢ each. How many can Nancy buy?

8. Father gave Tom 69¢ to buy 3-cent stamps. How many stamps should Tom get?

9. If paper hats are 2¢ each, how many paper hats can I get for 46¢?

10. Jane paid 3¢ for 1 yard of ribbon. How many yards of this ribbon can she buy for 63¢?

If you know how much one thing costs and how much money you can spend, you divide to find how many things of the same kind you can buy.



REVIEW OF MULTIPLICATION

Multiply. Check the work by going over it again:

1.	428 × 2	121 × 8	115 × 3	139 × 2	145 × 2	100 × 7
2.	127 × 3	228 × 2	212 × 4	124 × 3	109 × 2	316 × 3
3.	130 × 6	305 × 3	308 × 2	194 × 2	203 × 9	135 × 2
4.	243 × 3	154 × 2	201 × 4	263 × 3	281 × 2	152 × 3
5.	450 × 2	183 × 3	147 × 2	124 × 2	205 × 3	292 × 3
6.	136 × 2	108 × 2	281 × 3	131 × 6	219 × 3	133 × 3
7.	226 × 3	120 × 7	371 × 2	315 × 2	107 × 3	203 × 5
8.	122 × 4	161 × 2	143 × 3	319 × 2	173 × 3	126 × 2

1. Grandfather has 186 chickens on his farm. He bought $\frac{1}{2}$ of these chickens this spring. How many chickens did he buy then?

To find out, you must divide 186 by 2.

You cannot divide 1 by 2, so you divide 18 by 2. Think "18 ÷ 2 = 9." Write 9 over the *last* figure of 18; that is, write 9 over 8.

Think "6 ÷ 2 = 3." Write 3 over 6. The answer is 93. Grandfather bought 93 chickens this spring.

To check the work, multiply 93 by 2; if you get 186, your answer is right.

$$\begin{array}{r} 93 \\ 2\overline{)186} \end{array}$$

Check

$$\begin{array}{r} 93 \\ 2 \\ \hline 186 \end{array}$$

2. Grandfather says that $\frac{1}{3}$ of his 186 chickens are brown. How many brown chickens has he?

3. Grandfather got 216 eggs last week. He sold $\frac{1}{3}$ of them in the city. How many eggs did he sell in the city last week?

4. One week in the winter Grandfather got only 144 eggs. He sent $\frac{1}{2}$ of them to the city. How many did he send to the city that week?

5. Grandfather wants to buy 150 baby chicks. He will buy $\frac{1}{3}$ of them from Mr. Green. How many baby chicks will he buy from Mr. Green?

Find the answers. Check the work:

6. $\frac{1}{2}$ of 128	$\frac{1}{2}$ of 186	$\frac{1}{3}$ of 219	$\frac{1}{2}$ of 142
7. $\frac{1}{3}$ of 246	$\frac{1}{2}$ of 104	$\frac{1}{3}$ of 159	$\frac{1}{3}$ of 279
8. $\frac{1}{2}$ of 106	$\frac{1}{3}$ of 189	$\frac{1}{2}$ of 144	$\frac{1}{3}$ of 123

Division of three-figure numbers with two-figure quotients, no carrying.

Divide. Then check by multiplying:

1. $2\overline{)146}$	$2\overline{)102}$	$2\overline{)482}$	$3\overline{)123}$	$3\overline{)216}$
2. $3\overline{)189}$	$2\overline{)264}$	$3\overline{)339}$	$2\overline{)144}$	$3\overline{)639}$
3. $2\overline{)166}$	$2\overline{)626}$	$3\overline{)246}$	$3\overline{)666}$	$2\overline{)124}$
4. $3\overline{)276}$	$2\overline{)824}$	$3\overline{)153}$	$2\overline{)162}$	$3\overline{)213}$
5. $2\overline{)128}$	$2\overline{)142}$	$3\overline{)369}$	$3\overline{)249}$	$2\overline{)648}$
6. $2\overline{)188}$	$3\overline{)396}$	$2\overline{)104}$	$2\overline{)184}$	$3\overline{)393}$
7. $3\overline{)159}$	$2\overline{)122}$	$3\overline{)996}$	$2\overline{)168}$	$3\overline{)126}$
8. $2\overline{)182}$	$3\overline{)279}$	$2\overline{)106}$	$3\overline{)186}$	$3\overline{)336}$

Find the answers and check by multiplying:

9. $\frac{1}{2}$ of 108	$\frac{1}{2}$ of 442	$\frac{1}{3}$ of 129	$\frac{1}{3}$ of 33
10. $\frac{1}{3}$ of 156	$\frac{1}{2}$ of 126	$\frac{1}{2}$ of 164	$\frac{1}{3}$ of 69
11. $\frac{1}{3}$ of 219	$\frac{1}{3}$ of 243	$\frac{1}{2}$ of 284	$\frac{1}{2}$ of 88
12. $\frac{1}{2}$ of 666	$\frac{1}{3}$ of 183	$\frac{1}{3}$ of 273	$\frac{1}{3}$ of 93
13. $\frac{1}{2}$ of 148	$\frac{1}{2}$ of 682	$\frac{1}{2}$ of 186	$\frac{1}{3}$ of 36
14. $\frac{1}{3}$ of 153	$\frac{1}{2}$ of 188	$\frac{1}{3}$ of 216	$\frac{1}{2}$ of 64
15. $\frac{1}{2}$ of 102	$\frac{1}{3}$ of 213	$\frac{1}{3}$ of 363	$\frac{1}{2}$ of 82
16. $\frac{1}{3}$ of 276	$\frac{1}{2}$ of 162	$\frac{1}{2}$ of 428	$\frac{1}{3}$ of 63

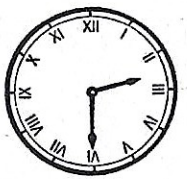
17. To find $\frac{1}{2}$ of a number, I divide the number by . . .

18. To find $\frac{1}{3}$ of a number, I divide the number by . . .

1. Noon comes at 12 o'clock. 8 A.M. means 8 o'clock in the morning. A.M. means *before noon.* 3 P.M. means 3 o'clock in the afternoon. P.M. means *after noon.*

2. Learn this table of time:

60 minutes (min.)	=	1 hour (hr.)
24 hours (hr.)	=	1 day (da.)

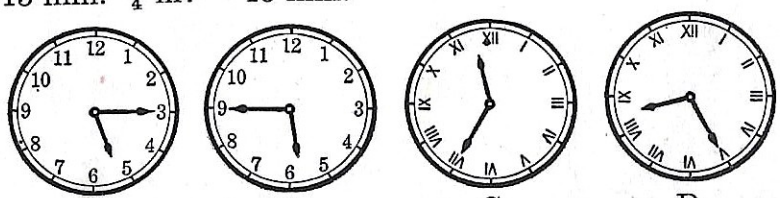


3. This clock shows 30 minutes past 2, or 2:30. You often call it *half past* 2. It means a half hour after 2.

4. How many minutes does it take the long hand of the clock to move all around the face of the clock? to move half way around?

5. What is $\frac{1}{2}$ of 60 min.? A half hour is how many minutes?

6. Clock *A* below shows 15 min. past 5, or 5:15. You often call it a *quarter after* 5 because the long hand has gone a quarter of the way around the clock. Clock *B* shows 5:45, or 15 min. to 6. You often call it a *quarter to* 6. You see that a quarter of an hour is the same as 15 min. $\frac{1}{4}$ hr. = 15 min.



7. Clock *C* shows 11:35, or 25 min. to 12. What time does clock *D* show?

BUSTER

1. Jim, Jack, and Ann bought Buster last month. Buster cost $18. Father paid $\frac{1}{2}$ of the cost and the children paid $\frac{1}{2}$. How much did the children pay?

2. Jim had $2.23, Jack had $2.75, and Ann had $2.89. How much money did the three children have? Did they have enough to pay their part?

3. How much more money did the children need to make $9.00?

4. The children worked to earn more money to pay for Buster. Jim earned 95¢, Jack earned 75¢, and Ann earned 50¢. How much did the children earn in all? They needed $1.13. Did they have enough? Did they have any money left over? how much?

Add these numbers and check the work:

1.	27	93	23	13	45	36	26
	58	84	37	97	98	65	46
	62	46	56	58	42	23	73
	43	19	65	31	61	82	34
2.	22	50	25	24	13	31	44
	83	96	69	10	25	14	57
	17	49	72	69	98	67	19
	38	33	62	47	48	75	72
3.	53	51	40	29	24	43	35
	75	17	43	60	43	67	53
	80	78	58	41	57	78	37
	19	24	39	82	66	64	73
4.	23	34	42	30	24	67	52
	78	75	67	89	65	55	48
	99	88	95	76	47	86	99
	32	17	18	56	79	34	27

Subtract these numbers and check the work:

5.	700	651	808	714	972	705
	399	605	309	424	468	226
6.	637	607	738	183	316	822
	170	358	541	145	157	559
7.	500	935	626	425	272	700
	137	779	498	147	103	102
8.	614	604	246	505	553	715
	125	207	207	236	364	478

1. Joe's mother had 12 cookies which she divided *equally* between Joe and Dick. To divide cookies *equally* between 2 boys means to give each boy the same number of cookies. So each boy got $\frac{1}{2}$ of the cookies. How many cookies did each boy get?

2. Uncle Tom has 69 stamps which he wants to divide equally among 3 boys. Each boy will get $\frac{1}{3}$ of the stamps. How many stamps will each boy get?

3. Alice bought 10 candy canes. She wants to share them equally with her sister. How many candy canes will each girl get?

To *share equally* means to *divide equally*. Each girl's share is $\frac{1}{2}$ of 10 candy canes. How many candy canes will each girl get?

4. Three girls went on a picnic. They spent 66¢ for food. If the 3 girls shared the cost equally, what was each girl's share of the cost?

5. Bill and Joe bought a box of candy for 48¢. They shared the cost equally. How much did each boy pay?

6. Fred bought 36 nuts. He shared them equally with 2 boys. How many nuts did each of the 3 boys get?

7. Jane and Mary bought a doll for their sister. They paid 88¢ for it. If the 2 girls shared the cost equally, what was each girl's share?

If things are shared equally by several children, you find each child's share by dividing by the number of children.

THE BOYS GO FISHING

1. Yesterday 3 boys went fishing on Green Lake. They rented a boat for 6 hours and paid 30¢ an hour. How much did it cost to rent the boat?

2. They fished all morning. Joe caught 3 fish, Tom caught 2 fish, and Jim did not catch any. How many fish did the boys catch in the morning?

3. They ate lunch at half past 12. Joe brought 15 sandwiches to share with Tom and Jim. How many sandwiches were there for each one of the 3 boys?

4. Jim brought a dozen cookies to share with the boys. How many cookies did each boy get?

5. Jim brought 6 apples to share with the other boys. How many apples did each boy get?

6. After lunch Joe caught 7 fish, Tom caught 6 fish, and Jim caught 6. How many fish did the boys catch in the afternoon?

7. The boys caught 5 fish in the morning and 19 fish in the afternoon. How many fish did they catch in all?

8. The boys thought they would share all the fish equally. How many fish would each one get?

9. The boys got back home at 4 o'clock in the afternoon. They left home in the morning at 9 o'clock. How many hours were they away on the fishing trip?

Multiply. Check by going over the work:

1. 143	106	227	209	172	453
2	3	2	2	3	2
2. 231	219	182	229	121	142
5	2	2	3	6	3
3. 162	261	208	174	392	113
2	3	3	2	2	7
4. 227	131	132	416	171	327
3	8	4	2	3	3
5. 103	245	130	291	364	102
6	2	7	3	2	9

Divide. Check the work by multiplying:

6. 2)106	3)333	2)428	3)669	2)128
7. 3)399	2)184	2)822	2)868	3)189
8. 2)686	3)999	2)488	3)276	3)993
9. 2)644	2)222	3)249	2)142	2)262
10. 3)663	2)844	3)966	3)153	2)828
11. 2)108	3)186	2)164	2)286	3)369
12. 3)219	2)642	3)639	3)159	2)186
13. 2)248	3)129	2)146	3)243	3)216

1. Add 6 to each number. Add 8 to each number:

25 19 46 38 62 57 74 83

2. Multiply each number by 3; by 2:

6 4 2 8 5 0 9 3 1 7

3. Subtract 5 from each number. Subtract 7:

16 32 50 47 61 25 43 39

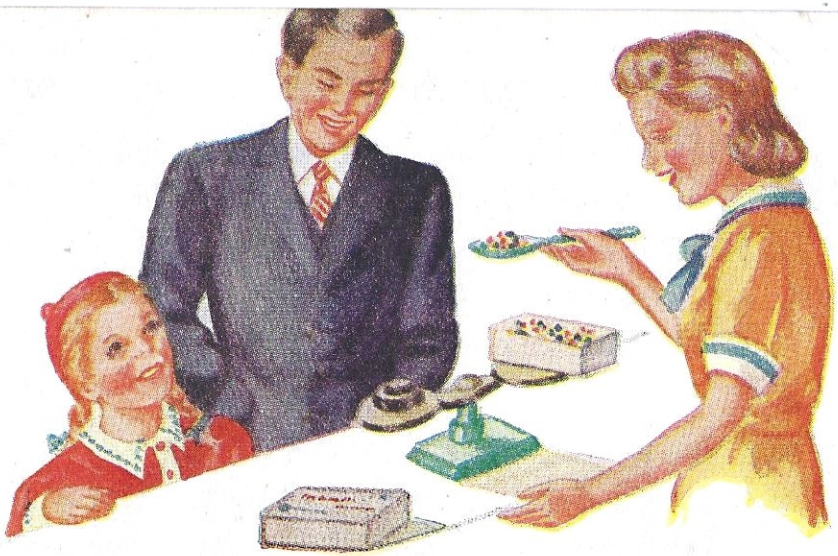
Tell the answers:

4. $4 \div 2$	$2 \div 2$	9×2	$24 \div 3$	$14 \div 2$
5. 7×3	2×4	3×8	$12 \div 2$	$27 \div 3$
6. $6 \div 3$	$3 \div 3$	2×7	$18 \div 3$	$16 \div 2$
7. $6 \div 2$	9×3	5×3	$10 \div 2$	$15 \div 3$
8. 3×6	$8 \div 2$	8×2	$18 \div 2$	$21 \div 3$
9. $9 \div 3$	5×2	2×0	$12 \div 3$	$12 \div 2$

Read each fact and say the answer like this: "$3 \times 7 = 21$." Then turn the numbers around and do it again, like this: "$7 \times 3 = 21$."

10. 3×7	$5 + 9$	8×3	$7 + 8$	3×9
11. $6 + 8$	4×3	$6 + 9$	2×9	$7 + 6$
12. 2×3	$9 + 8$	4×2	$9 + 4$	$5 + 7$
13. $8 + 5$	2×8	$5 + 6$	3×4	2×7

14. Tell what time it is by each clock:



POUNDS AND OUNCES

1. Uncle Joe buys Sally a pound of hard candy. He also buys a half pound of chocolate candy. A half pound equals 8 ounces. You write one half pound like this: $\frac{1}{2}$ lb. You write 8 ounces like this: 8 oz.

16 ounces (oz.) = 1 pound (lb.)

2. Many things are sold by the pound. Name as many things as you can that are sold by the pound.

3. A candy bar is marked "5 oz." Is this more or less than $\frac{1}{2}$ lb.?

4. Mother bought a bunch of grapes that weighed 19 oz. How many ounces more than a pound did the grapes weigh?

5. Bill weighs 65 lb. and Mary weighs 51 lb. How many more pounds does Bill weigh than Mary?

6. How many ounces are there in 2 lb.? in 3 lb.?

1. Bob bought a quart of milk for 17¢ and gave the man a quarter. How much change did Bob get?

2. Mary's book has 64 pages. She read half the book today. How many pages did she read today?

3. There are 144 sheets of paper in a package. How many sheets of paper are there in 2 packages?

4. Alice and Peggy have bought a package of paper with 144 sheets in it. If they share the paper equally, how many sheets will each one get?

5. In a game of beanbag Joe threw bags into holes 3, 8, and 6. What was Joe's score?

6. Tom is 12 years old. His father is 36 years old. How many years younger is Tom than his father?

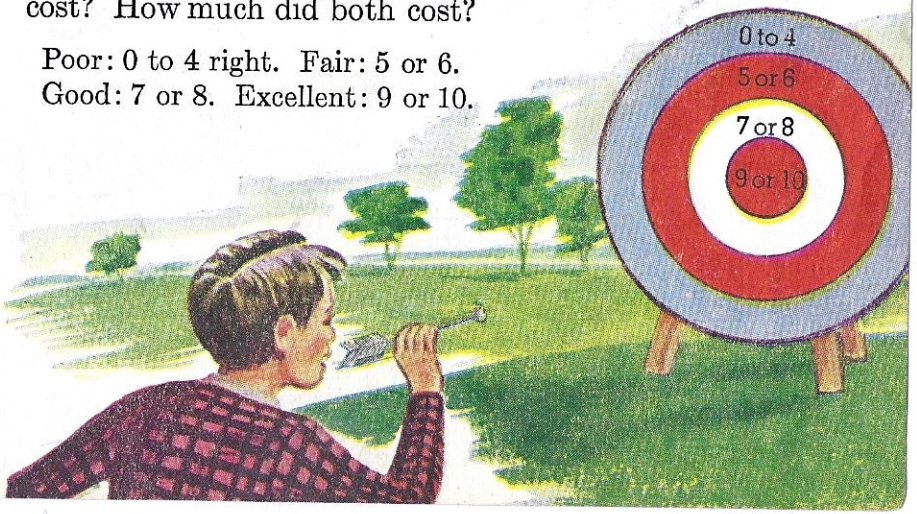
7. A bag of marbles costs 25¢. How much must Jim pay for 3 bags of marbles?

8. At 3¢ each, how many pencils can I buy for 24¢?

9. Jane's mother bought her a sweater for $2.25 and a skirt for $1.98. How much did they both cost?

10. Bill's father paid $12 for a ticket to Chicago. He paid half fare for Bill. How much did Bill's ticket cost? How much did both cost?

Poor: 0 to 4 right. Fair: 5 or 6.
Good: 7 or 8. Excellent: 9 or 10.



1. Ann bought 3 boxes of cookies, each marked "4 oz." How many ounces of cookies did she buy? Did Ann have more or less than 1 pound?

2. $\frac{1}{2}$ lb. = . . . oz. 3 lb. = . . . oz.

3. $\frac{1}{2}$ hr. = . . . min. 2 hr. = . . . min.

4. To find $\frac{1}{3}$ of a number, I divide the number by . . .

5. . . . × 2 = 12, so there are . . . 2's in 12.

6. . . . × 3 = 24, so there are . . . 3's in 24.

7. . . . × 2 = 18, so there are . . . 2's in 18.

8. . . . × 3 = 15, so there are . . . 3's in 15.

Find the answers to these:

9. $\frac{1}{2}$ of 84	$\frac{1}{3}$ of 936	$\frac{1}{2}$ of 866	$\frac{1}{3}$ of 243
10. $\frac{1}{3}$ of 66	$\frac{1}{2}$ of 144	$\frac{1}{2}$ of 282	$\frac{1}{3}$ of 663
11. $\frac{1}{2}$ of 42	$\frac{1}{2}$ of 466	$\frac{1}{3}$ of 123	$\frac{1}{3}$ of 339
12. $\frac{1}{2}$ of 68	$\frac{1}{3}$ of 636	$\frac{1}{3}$ of 693	$\frac{1}{2}$ of 684

Multiply. Check the work by going over it:

13. 212 × 5	118 × 3	470 × 2	148 × 2	203 × 8	293 × 3
14. 242 × 3	226 × 2	220 × 9	105 × 3	364 × 2	314 × 3
15. 312 × 6	172 × 3	251 × 2	109 × 2	230 × 7	206 × 3
16. 121 × 7	113 × 5	129 × 3	518 × 2	370 × 3	248 × 2

If you miss more than one example in any row, turn to the Practice Pages for that row.

PRACTICE PAGES

Multiply and check the work:

1.	56 × 3	39 × 3	104 × 3	218 × 3	127 × 3	212
2.	231 × 4	264 × 2	130 × 7	231 × 9	131 × 5	245

Give the answers:

3.	2)16	2)8	2)18	2)12	2)14	231
4.	3)27	3)15	3)21	3)18	3)24	240
5.	3)12	3)6	3)27	3)9	3)3	240

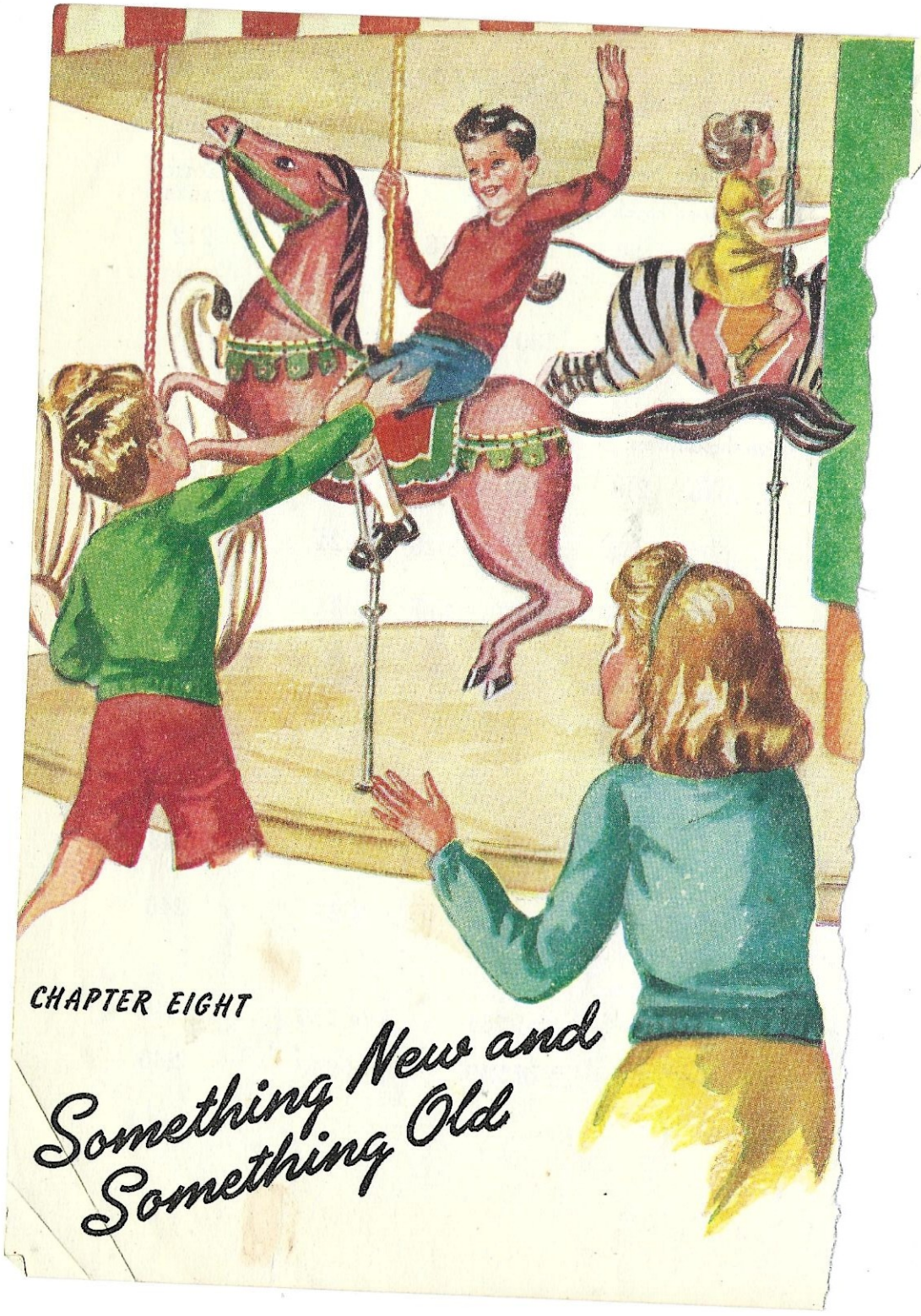
Divide these numbers and check:

6.	2)824	2)682	2)248	2)486	243
7.	2)168	2)104	2)182	2)148	246
8.	3)639	3)933	3)336	3)696	243
9.	3)246	3)153	3)219	3)276	246

Find the answers:

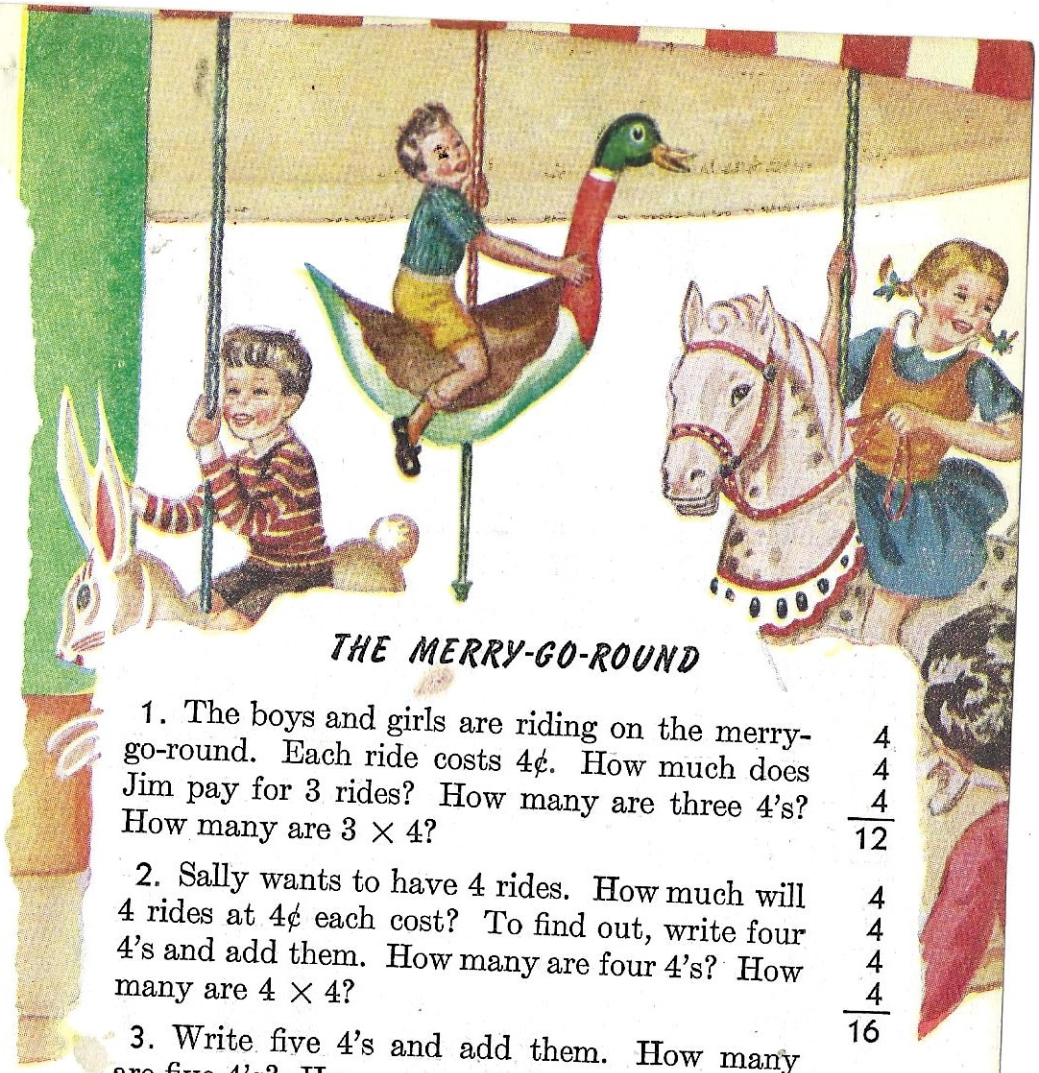
10. $\frac{1}{3}$ of 69	$\frac{1}{2}$ of 264	$\frac{1}{3}$ of 186	246
11. $\frac{1}{2}$ of 82	$\frac{1}{3}$ of 249	$\frac{1}{2}$ of 148	246

Diagnostic test.



CHAPTER EIGHT

Something New and Something Old



THE MERRY-GO-ROUND

1. The boys and girls are riding on the merry-go-round. Each ride costs 4¢. How much does Jim pay for 3 rides? How many are three 4's? How many are 3 × 4?

$$\begin{array}{r} 4 \\ 4 \\ 4 \\ \hline 12 \end{array}$$

2. Sally wants to have 4 rides. How much will 4 rides at 4¢ each cost? To find out, write four 4's and add them. How many are four 4's? How many are 4 × 4?

$$\begin{array}{r} 4 \\ 4 \\ 4 \\ 4 \\ \hline 16 \end{array}$$

3. Write five 4's and add them. How many are five 4's? How many are 5 × 4? Write six 4's and add them. How many are 6 × 4?

4. Add seven 4's. How many are 7 × 4? Add eight 4's. How many are 8 × 4? How many are 9 × 4?

5. Alice asked her mother for enough money to take 6 rides on the merry-go-round at 4¢ each. How much money did Alice need for 6 rides?

1. Add the numbers in the columns below:

2	3	4	5	6	7	8	9
2	3	4	5	6	7	8	9
2	3	4	5	6	7	8	9
2	3	4	5	6	7	8	9

The first column has four 2's. How many are four 2's? How many are 4×2? The second column has four 3's. How many are 4×3? How many are 4×4?

2. Study the columns above. How many are 4×5? 4×7? 4×6? 4×8? 4×9?

3. Give the answers to these new multiplication facts which you learned in ex. 1 and 2:

5	7	1	3	6	9	2	4	8
4	4	4	4	4	4	4	4	4

4. Learn these multiplication facts. You already know the first six facts:

4	1	4	2	4	3	4	5	4
1	4	2	4	3	4	5	4	4
4	4	8	8	12	12	20	20	16
4	6	4	7	4	8	4	9	
6	4	7	4	8	4	9	4	
24	24	28	28	32	32	36	36	

Multiply these numbers:

5.	4	4	7	4	4	4	1	0	9
	8	3	4	9	2	4	4	4	4
6.	2	4	5	8	4	3	4	4	6
	4	0	4	4	6	4	7	5	4

1. Multiply each of these numbers by 4:

2 5 9 4 7 3 8 6 1

2. Multiply 4 by each of these numbers:

9 4 7 2 6 1 8 3 5

3. Tom is making toy wagons. He puts 4 wheels on each one. How many wheels does he need for 5 wagons?

4. There are 7 days in each week. How many days are there in 4 weeks?

5. There are 4 glasses of milk in 1 qt. How many glasses can you get from 8 qt.?

Multiply these numbers:

6.	4	3	1	9	7	4	4	0	4
	8	3	4	3	4	9	2	4	3
7.	9	8	5	3	2	4	4	3	3
	4	2	4	8	9	4	7	9	7
8.	0	3	7	8	5	2	7	2	4
	2	4	3	4	3	4	2	2	0
9.	6	8	9	5	3	4	5	4	9
	4	3	2	3	6	5	2	6	4
10.	6	0	3	2	6	2	9	2	2
	2	3	5	8	4	5	2	7	3

11. Do ex. 6 to 10 again in a new way. Each time after you multiply, add 2 to the answer. For example, in ex. 6, think "$8 \times 4 = 32$. $32 + 2 = 34$." Give only the answer, 34. Do each example this way.

1. Mary and Jane are making sandwiches for a picnic. There will be 15 children at the picnic. The girls plan to have 4 sandwiches for each child. How many sandwiches in all must they make?

In this problem 4×15 gives the right answer, because 4×15 is the same as 15×4.

2. Tom can buy 4 marbles for 1 cent. How many marbles can he get for 25 cents?

3. Alice uses 4 in. of ribbon for each badge she makes. She wants to make 18 badges. How many inches of ribbon does she need? How many inches are there in 1 yd.? in 2 yd.? Will 2 yd. of ribbon be enough?

Multiply. Check the work by going over it again:

4.	31	23	182	123	115	240
	4	4	4	4	4	4
5.	84	75	109	242	216	171
	4	4	4	4	4	4
6.	49	56	160	215	119	105
	4	4	4	4	4	4
7.	97	68	113	200	224	118
	4	4	4	4	4	4

1. Joe's father bought 4 bus tickets when he took his family to the country. He paid $1.50 for each ticket. How much did he pay in all?

2. Tom sold 7 dozen eggs at $.44 a dozen. How much did Tom get for the eggs?

3. Ann bought 4 yards of ribbon. She paid $.45 a yard. How much did she pay for 4 yards?

Multiply. Check the work by going over it:

4.	$.34	$.38	$.24	$1.12	$1.30	$1.14
	8	4	6	8	6	7
5.	$.97	$.41	$.40	$1.41	$1.04	$2.13
	4	9	7	5	8	4
6.	$.44	$.35	$.86	$1.03	$3.10	$2.18
	5	4	4	9	2	4
7.	$.48	$.42	$.43	$2.23	$1.40	$1.20
	3	8	5	4	4	8
8.	$.67	$.44	$.54	$1.04	$2.19	$1.72
	4	6	4	6	4	4
9.	$.14	$.57	$.24	$2.01	$1.40	$1.11
	7	4	9	4	7	9

CIRCUS DAY

1. Last Saturday the circus came to town. The first show began at 2 P.M. and the second show at 7:30 P.M. If each show lasted 3 hours, when did the first show end? the second show?

2. In the afternoon 475 people went to the circus. In the evening 458 people were there. How many people went to the circus all together?

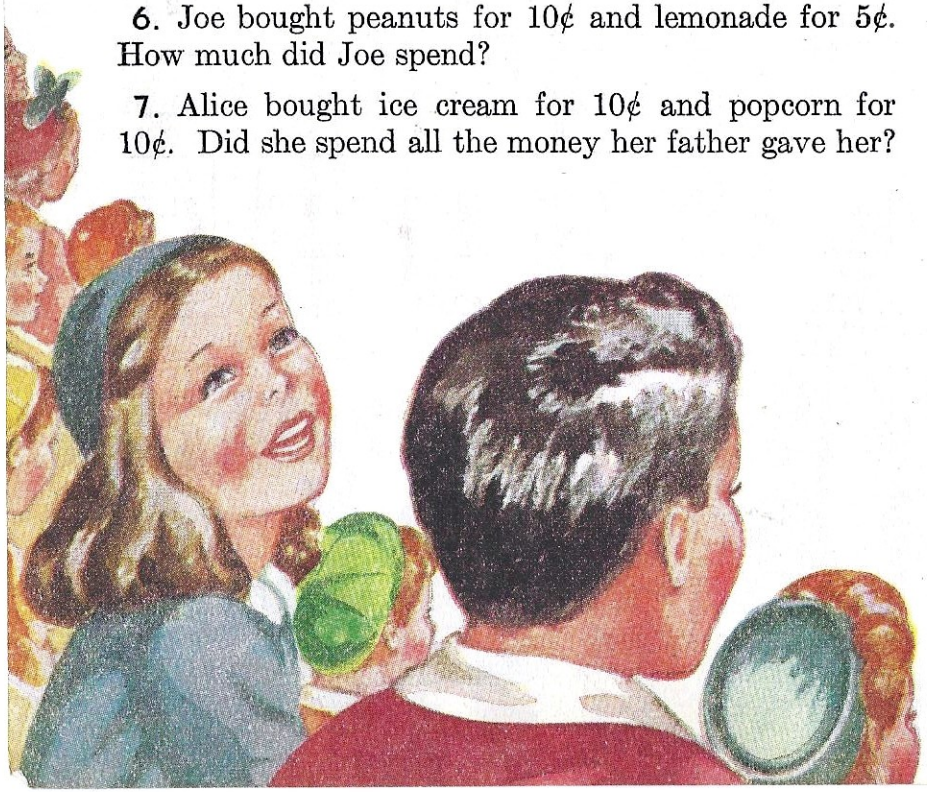
3. Mr. and Mrs. Green took Joe and Alice to the circus. Each ticket cost $1.15. How much did Mr. Green pay for 4 tickets?

4. When he paid for the tickets he gave the man $5.00. How much change did Mr. Green get?

5. Mr. Green gave the 40¢ in change to Joe and Alice to divide equally. How much did each one get?

6. Joe bought peanuts for 10¢ and lemonade for 5¢. How much did Joe spend?

7. Alice bought ice cream for 10¢ and popcorn for 10¢. Did she spend all the money her father gave her?



8. The children saw 4 clowns climb a pole, 3 clowns jump rope, and 5 clowns run a race. How many clowns did they see all together?

9. The circus had three rings. At one time there were 8 ponies in one ring, 4 ponies in another ring, and 6 ponies in the third ring. How many ponies were there in the three rings?

10. Joe liked to watch the elephants. A man told Joe that the biggest elephant was 35 years old. Joe is 8 years old. How many years older than Joe is the elephant?

PROBLEMS WITHOUT NUMBERS

Do you add, subtract, multiply, or divide to get the answer to each problem?

1. Mary knows the cost of the doll she wants. She has some money but not enough to buy it. To find how much more money she needs, she should . . . . . .

2. Jane wants to buy a book, a game, and a pad. She knows the cost of each. To find the cost of all three things, she should . . . . . .

3. Uncle Bill gave Jack and Tom some stamps. The boys want to share them equally. To find how many stamps each one should take, they should . . . . . .

4. Ann knows the cost of one apple. She knows how many apples she wants to buy. To find the cost of all of them, she should . . . . . .

5. Betsy wants to buy some lollipops. She knows how much money she has to spend. She knows how much each lollipop costs. To find how many lollipops she can buy, she should . . . . . .

MIXED PRACTICE

6. Find the sum of \$3.25, \$4.06, and \$.75.
7. How much more is 406 than 298?
8. How many cookies are there in $\frac{1}{2}$ dozen?
9. $4 \times 218 = \ldots$ $\quad 6 \times 214 = \ldots$
10. $369 \div 3 = \ldots$ $\quad \frac{1}{2}$ of $186 = \ldots$
11. How many minutes are there in half an hour?
12. How many cents are there in 4 dimes?

Add up. Check the work by adding down:

1.	\$2.25	\$3.46	\$3.08	\$6.67	\$2.45
	4.76	2.34	4.32	1.31	1.55
	3.69	2.12	1.24	1.65	3.14
2.	\$4.88	\$6.38	\$1.19	\$6.86	\$1.85
	2.04	1.29	1.27	1.05	.76
	2.33	.44	5.55	2.43	7.11
3.	\$2.90	\$1.94	\$1.79	\$4.67	\$3.44
	3.78	4.69	3.39	.90	1.58
	5.22	2.59	1.27	1.43	3.48
4.	\$2.86	\$1.79	\$1.58	\$2.49	\$2.97
	2.75	.60	4.74	3.75	1.38
	1.38	2.48	1.29	1.76	5.34

Subtract these numbers and check the work:

5.	\$7.68	\$8.71	\$6.00	\$8.09	\$9.04
	1.98	2.75	1.26	5.52	4.96
6.	\$4.33	\$6.00	\$5.92	\$7.85	\$7.27
	1.88	3.70	2.89	7.58	4.66
7.	\$5.15	\$3.69	\$7.00	\$6.67	\$3.68
	2.66	1.04	2.08	3.59	1.72
8.	\$4.87	\$3.22	\$8.24	\$8.69	\$6.00
	4.74	2.33	5.15	3.83	4.82
9.	\$4.24	\$5.53	\$4.31	\$3.00	\$9.34
	1.49	3.86	3.63	2.04	6.97

1. Grandfather sent us a gallon of maple sirup in a large tin can. Mother wants to put it into glass jars. Each glass jar holds 1 quart. She finds that the gallon of sirup just fills 4 quart jars.

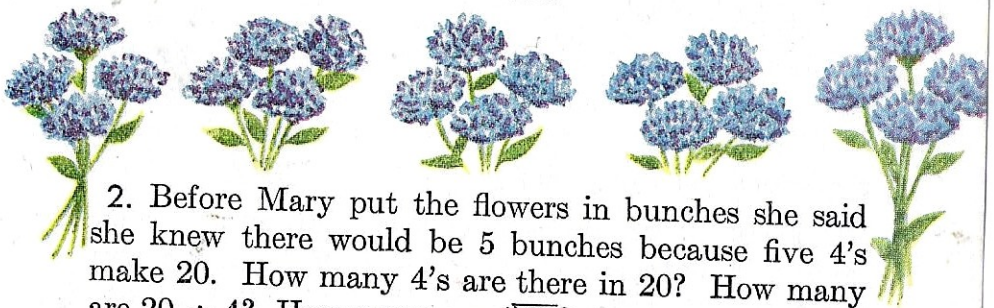
4 quarts (qt.) = 1 gallon (gal.)

2. Try to find an empty gallon can and an empty quart bottle. Then fill the quart bottle with water and pour it into the gallon can. How many times must you do this to fill the gallon can? How many quarts make a gallon?

3. You know that there are 2 pints in 1 quart. How many pints are there in 1 gallon?

4. Name some things that are sold by the gallon.

1. Mary wants to divide 20 flowers into bunches. She wants to put 4 flowers in each bunch. How many bunches of flowers will she have?



2. Before Mary put the flowers in bunches she said she knew there would be 5 bunches because five 4's make 20. How many 4's are there in 20? How many are $20 \div 4$? How many are $4\overline{)20}$?

Tell what numbers go in the spaces:

3. . . . 4's make 12, so $4\overline{)12}$ equals . . .
4. . . . 4's make 24, so $4\overline{)24}$ equals . . .
5. . . . 4's make 16, so $4\overline{)16}$ equals . . .
6. . . . 4's make 28, so $4\overline{)28}$ equals . . .
7. . . . 4's make 36, so $4\overline{)36}$ equals . . .

8. Learn these division facts:

$\begin{array}{r}1\\4\overline{)4}\end{array}$ $\begin{array}{r}2\\4\overline{)8}\end{array}$ $\begin{array}{r}3\\4\overline{)12}\end{array}$ $\begin{array}{r}4\\4\overline{)16}\end{array}$ $\begin{array}{r}5\\4\overline{)20}\end{array}$

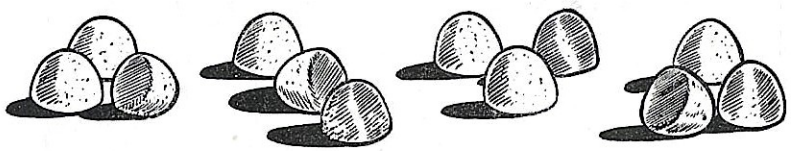
$\begin{array}{r}6\\4\overline{)24}\end{array}$ $\begin{array}{r}7\\4\overline{)28}\end{array}$ $\begin{array}{r}8\\4\overline{)32}\end{array}$ $\begin{array}{r}9\\4\overline{)36}\end{array}$

Tell what numbers to put in the spaces:

9. $32 \div 4 = \ldots$ $8 \div 4 = \ldots$ $4 \div 4 = \ldots$
10. $20 \div 4 = \ldots$ $24 \div 4 = \ldots$ $12 \div 4 = \ldots$
11. $16 \div 4 = \ldots$ $36 \div 4 = \ldots$ $28 \div 4 = \ldots$

1. This apple is cut into 4 equal pieces. Are these pieces all the same size? What do you call each piece? Another name for *one fourth* is *one quarter*. Which is larger, $\frac{1}{4}$ of an apple or $\frac{1}{2}$ of an apple?

2. These 12 gumdrops have been put into 4 equal groups. What do you call each group? How many are $\frac{1}{4}$ of 12? How many are $12 \div 4$? Does $12 \div 4$ have the same answer as $\frac{1}{4}$ of 12?



To find $\frac{1}{4}$ of a number, divide it by 4.

3. Tom had 20 marbles. He lost $\frac{1}{4}$ of them. How many marbles did Tom lose?

4. Ann picked 24 flowers. She gave $\frac{1}{4}$ of them to Betty. How many flowers did Ann give Betty?

Find the answers:

5. $\frac{1}{4}$ of 8	$\frac{1}{4}$ of 16	$\frac{1}{4}$ of 4	$\frac{1}{3}$ of 27
6. $\frac{1}{4}$ of 20	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 18
7. $\frac{1}{4}$ of 28	$\frac{1}{4}$ of 24	$\frac{1}{3}$ of 24	$\frac{1}{2}$ of 14
8. $\frac{1}{4}$ of 12	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 12	$\frac{1}{3}$ of 15

1. One orange costs 4¢. How many oranges can Joe buy for 12¢? for 20¢?

2. There are 36 inches in a yard of ribbon. How many inches are there in $\frac{1}{4}$ yard of ribbon?

3. Peggy made 48 pieces of candy. She packed them in 4 small boxes and put the same number of pieces in each box. How many pieces of candy did Peggy put in each box?

4. How many 4-cent apples can you buy for 32¢? for 12¢? for 24¢?

5. How many gallons of milk do 28 quarts of milk make? 16 quarts of milk?

6. The 36 children in our class marched on the playground by 4's. How many rows of children were there?

7. Peter earned 44¢. He put $\frac{1}{4}$ of this money in his bank. How much did he put in his bank?

8. Tom picked 32 tomatoes. He put the tomatoes in small baskets. There were 4 tomatoes in each basket. How many small baskets did he use?

9. Uncle Jack gave 88 marbles to 4 children to share equally. How many marbles did each child get?

10. There are 16 ounces in a pound. How many ounces are there in $\frac{1}{4}$ pound?

11. Mother bought 24 oranges. We eat 4 oranges every day. How many days will the oranges last?

12. Mary needs some pencils. How many 4-cent pencils can she buy for 20¢? How many 4-cent pencils can she buy for 28¢?

DIVIDING ZERO

1. You know that 0 is called *zero* and means *not any* or *nothing*. If you write 0 apples, it means *no* apples or *not any* apples.

2. Can you divide 6 apples equally among 3 boys? How many apples will each boy get? How many are $6 \div 3$?

3. Can you divide 0 apples among 3 boys? How many apples will each boy get? How many are $0 \div 3$?

4. You see that $0 \div 3 = 0$. You may also write it as shown at the right: $\begin{array}{r} 0 \\ 3\overline{)0} \end{array}$

5. How much is $7\overline{)0}$? $5\overline{)0}$? $2\overline{)0}$? $8\overline{)0}$? The answer is always 0 for you have nothing to divide.

> 0 divided by any number = 0.

6. Uncle Tom had 204 picture post cards. He gave half of them to Jack. How many cards did Jack get?

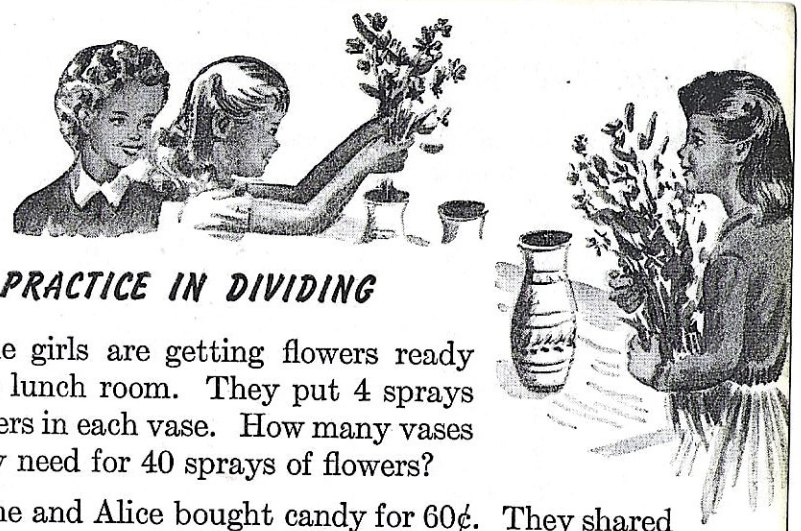
Think "$2 \div 2 = 1$." Write 1 over 2.
Think "$0 \div 2 = 0$." Write 0 over 0.
Think "$4 \div 2 = 2$." Write 2 over 4.
The answer is 102. Jack got 102 post cards. To check the work, multiply 102 by 2.

$$\begin{array}{r} 102 \\ 2\overline{)204} \end{array}$$

7. Uncle Tom had 180 stamps. He also gave half of them to Jack. How many stamps was that for Jack?

Think "$18 \div 2 = 9$." Write 9 over 8.
Think "$0 \div 2 = 0$." Write 0 over 0.
The answer is 90. Jack got 90 stamps.
To check the work, multiply 90 by 2.

$$\begin{array}{r} 90 \\ 2\overline{)180} \end{array}$$



PRACTICE IN DIVIDING

1. The girls are getting flowers ready for the lunch room. They put 4 sprays of flowers in each vase. How many vases do they need for 40 sprays of flowers?

2. Jane and Alice bought candy for 60¢. They shared the cost equally. How much did each girl pay?

3. The girls made candy for a sale. They had 90 pieces of candy to put in bags. If they put 3 pieces of candy in each bag, how many bags did they use?

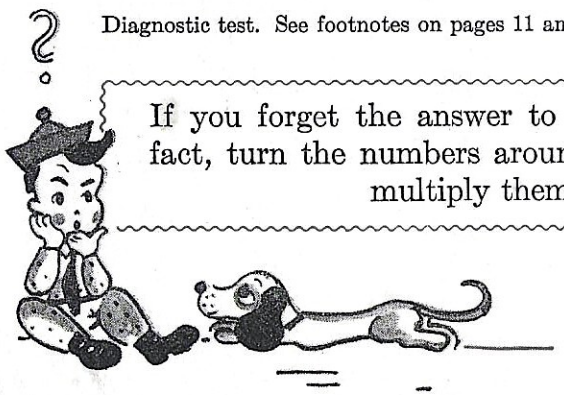
Divide. Check the work by multiplying:

4.	$4\overline{)48}$	$2\overline{)202}$	$4\overline{)120}$	$3\overline{)306}$	$4\overline{)408}$
5.	$3\overline{)30}$	$4\overline{)240}$	$3\overline{)360}$	$4\overline{)844}$	$2\overline{)268}$
6.	$4\overline{)40}$	$2\overline{)160}$	$4\overline{)200}$	$3\overline{)150}$	$4\overline{)248}$
7.	$2\overline{)80}$	$4\overline{)208}$	$3\overline{)309}$	$4\overline{)128}$	$2\overline{)266}$
8.	$4\overline{)88}$	$3\overline{)600}$	$4\overline{)164}$	$2\overline{)448}$	$4\overline{)360}$
9.	$4\overline{)44}$	$2\overline{)208}$	$3\overline{)390}$	$4\overline{)160}$	$2\overline{)200}$
10.	$3\overline{)69}$	$4\overline{)280}$	$4\overline{)880}$	$2\overline{)228}$	$4\overline{)404}$
11.	$4\overline{)80}$	$2\overline{)406}$	$3\overline{)603}$	$4\overline{)168}$	$4\overline{)364}$

You have learned these multiplication facts. Try to say the answers to all these facts without a mistake:

1.	3	6	2	7	4	0	2	1	9
	6	0	9	1	5	4	3	2	4
2.	1	4	2	0	3	7	5	4	2
	3	4	5	7	3	2	1	8	0
3.	1	3	0	4	2	2	7	9	3
	8	2	3	9	1	4	3	0	5
4.	3	1	6	9	6	0	9	6	8
	4	6	3	1	4	5	3	2	0
5.	4	2	1	0	2	4	3	8	3
	0	7	5	9	8	7	1	4	8
6.	1	5	7	3	1	0	4	1	7
	9	2	0	9	4	2	2	7	4
7.	9	5	4	1	0	4	3	6	8
	2	0	3	1	8	6	7	1	2
8.	4	5	2	3	2	8	5	0	8
	1	3	2	0	6	1	4	6	3

Diagnostic test. See footnotes on pages 11 and 27.



If you forget the answer to a multiplication fact, turn the numbers around. Then try to multiply them.

When you want to find the answer to a division fact like $2\overline{)18}$, you ask this question: "How many 2's make 18?" To answer this question you have to know that $9 \times 2 = 18$. This multiplication fact tells you that nine 2's make 18 so the answer to $2\overline{)18}$ is 9. If you have trouble with the division facts, first study the multiplication facts.

Tell what numbers should be put in the spaces:

1. You know that $7 \times 2 = 14$, so $2\overline{)14}$ is . . .
2. You know that . . . $\times 3 = 21$, so $3\overline{)21}$ is . . .
3. You know that . . . $\times 4 = 12$, so $4\overline{)12}$ is . . .
4. You know that . . . $\times 4 = 20$, so $4\overline{)20}$ is . . .
5. You know that . . . $\times 4 = 32$, so $4\overline{)32}$ is . . .
6. You know that . . . $\times 3 = 27$, so $3\overline{)27}$ is . . .

DIVISION FACTS YOU SHOULD KNOW

You have learned these division facts. Say the answers as quickly as you can:

7.	$4\overline{)0}$	$2\overline{)6}$	$2\overline{)8}$	$2\overline{)16}$	$3\overline{)12}$	$4\overline{)24}$
8.	$3\overline{)3}$	$4\overline{)8}$	$3\overline{)6}$	$4\overline{)36}$	$3\overline{)18}$	$2\overline{)12}$
9.	$2\overline{)4}$	$2\overline{)0}$	$4\overline{)20}$	$2\overline{)18}$	$4\overline{)12}$	$3\overline{)27}$
10.	$4\overline{)4}$	$3\overline{)9}$	$3\overline{)21}$	$3\overline{)24}$	$2\overline{)14}$	$4\overline{)32}$
11.	$3\overline{)0}$	$2\overline{)2}$	$4\overline{)28}$	$3\overline{)15}$	$4\overline{)16}$	$2\overline{)10}$

Diagnostic test. See pages 11 and 27.

SELLING GARDEN SEEDS

1. The boys and girls in the Garden Club are selling garden seeds in packages. They have 200 packages of vegetable seeds and 200 packages of flower seeds to sell. How many packages of seeds have they in all?

2. Joe and Bob give each member of the club 10 packages of seeds to sell at 5¢ each. How much money should each child get for 10 packages?

3. Mary sells 3 of her 10 packages of seeds to her mother. How many packages of seeds does she have left to sell?

4. Ann sells half of her 10 packages of seeds the first day. How many packages is that?

5. Tom buys 3 packages of vegetable seeds to plant in his garden. He pays 5¢ for each package. How much does Tom pay for his seeds?

6. Jack, Peter, and Fred are brothers. Each boy sells all his seeds and gets 50¢ for them. How much money do the three boys have to bring to the Garden Club?

7. The boys bring 3 dimes, 4 nickels, and a dollar for their seeds. Is that the right amount for the three boys to bring? See ex. 6.

8. Betty's father buys 10 packages of seeds from Betty and 4 packages from Ann. How many packages of seeds does he buy?

9. How much does Betty's father pay for 14 packages of seeds at 5¢ each?

10. He pays Ann 20¢ for the seeds he buys from her. He gives her 50¢ and Ann gives him some change. Tell one way that Ann can make the change. Count the change as Ann makes it.

Make up a question for each problem. If you see M at the end of a problem, ask a question that will make it a multiplication problem. If you see D, ask a question that will make the problem a division problem. Then work the problem:

1. Jane and Alice made 128 pieces of candy. They put the candy in 4 boxes with the same number of pieces in each box. D

2. Candy costs 48¢ a pound. Mary bought ½ lb. D

3. There will be 36 children at the party. We want enough cakes to give each child 2 cakes. M

4. Tom and Jack paid 88¢ for a present for their father. They shared the cost equally. D

5. Milk costs 17¢ a quart in our town. We use 2 qt. of milk a day. M

6. Joe bought some pencils for 15¢. He paid 3¢ for each pencil. D

7. Jim's mother bought 24 eggs last week. The family eats 3 eggs each day. D

8. Ice cream costs $.65 a quart. Mary needs 3 qt. of ice cream for her party. M

9. Father had 40 post cards. He divided them equally between Mary and Joe. D

10. Fred bought 3 boxes of chocolate bars. There are 24 bars in each box. M

11. We need 32 glasses of milk for our lunch at school. We can get 4 glasses of milk from each quart. D

12. Bill had 4 dollar bills. He changed them all into quarters. M

1. Turn to page 73. Then try to say the answers to the addition facts without making a mistake.

2. Add 4 to each of the numbers below; add 6; add 7:

19	32	48	65	86	57	73	81

Add these numbers and check the work:

3.	63	43	73	68	73	75	69
	98	45	46	39	37	39	24
	29	54	78	13	79	38	41
4.	67	81	12	42	39	12	4
	95	45	44	88	72	69	68
	19	57	53	21	13	74	35
	42	75	84	37	34	7	76
5.	236	398	677	788	515	798	
	226	547	502	120	456	336	
	283	116	428	515	221	414	
6.	$2.25	$1.05	$4.93	$2.84	$ .57	$3.37	
	.07	2.98	1.17	1.16	2.16	1.99	
	.47	3.60	1.89	1.29	.86	6.25	

Copy and add. Check the work:

7. 3 + 6 + 7 + 6 + 1
8. 9 + 3 + 4 + 5 + 6
9. 6 + 5 + 7 + 1 + 8
10. 2 + 9 + 4 + 3 + 2
11. 4 + 8 + 6 + 3 + 5
12. 7 + 2 + 9 + 4 + 3
13. $4.25 + $3.89
14. $2.76 + $.66
15. $1.82 + $2.97
16. $1.57 + $1.45
17. $3.62 + $2.79
18. $2.08 + $1.75

1. Try to give the answers to the 100 subtraction facts on page 74 without making a mistake.

Subtract and check the work:

2.	59	83	149	468	$5.74	$3.47
	32	29	97	235	2.28	2.74
3.	82	42	290	811	$6.15	$9.00
	44	15	255	306	4.98	2.75
4.	39	61	121	867	$4.00	$5.20
	35	13	49	429	2.80	3.66
5.	85	70	827	141	$4.99	$3.08
	67	29	542	54	2.57	1.35
6.	62	85	553	700	$2.70	$1.77
	57	83	138	592	2.41	.84
7.	56	98	163	949	$2.32	$1.45
	18	79	70	716	1.43	.79
8.	95	76	867	111	$6.19	$7.72
	26	59	217	48	3.79	7.48
9.	85	44	199	600	$3.68	$4.93
	5	42	56	275	.32	3.17

10. From 608 subtract 416; from 790 subtract 185.

11. Subtract 806 from 932; 522 from 800; 309 from 718.

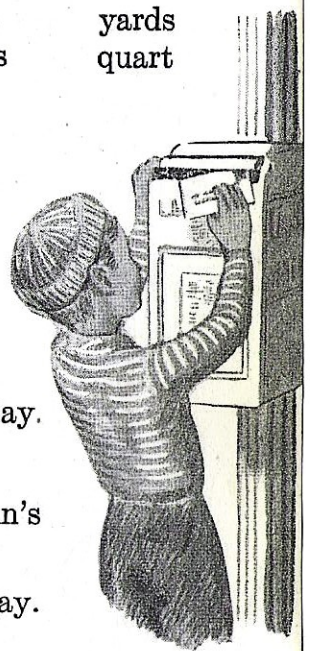
12. How much is 400 less 281?

13. From $9.52 subtract $1.19; from $6.00 take $5.27.

14. Take away $6.00 from $8.07.

In ex. 1 to 10 tell which of these words belongs in each space. Use each word only once:

hours	pounds	pint	inches	yards
dozen	ounces	feet	gallons	quart



1. There are 2 pints in 1 . . .

2. Joe sold 4 . . . eggs last week.

3. Bill weighed 82 . . . this spring.

4. Sally's father is 6 . . . tall.

5. Mary's pencil is 7 . . . long.

6. Jack sent a letter that weighed 2 . . .

7. The children were in school 6 . . . today.

8. Father bought 15 . . . of gasoline.

9. Mother bought 2 . . . of cloth for Ann's new dress.

10. Alice drinks 2 glasses of milk each day. That is the same as 1 . . . of milk a day.

Work these problems:

11. Mother bought $\frac{1}{4}$ doz. buttons for her coat. How many buttons did she buy?

12. Multiply 15 by 4. If four 15's make 60, what is $\frac{1}{4}$ of 60? How many minutes are $\frac{1}{4}$ of 60 min.? How many minutes are there in $\frac{1}{4}$ hr.?

13. Betty bought $\frac{1}{4}$ lb. of nuts. How many ounces are there in $\frac{1}{4}$ lb.?

14. Which is longer, 6 in. or $\frac{1}{4}$ yd.?

HOW DO YOU WORK THESE PROBLEMS?

Tell whether you add, subtract, multiply, or divide to work each problem. Then work the problem:

1. Mary made 30 cookies. She burned 6 cookies. How many cookies were not burned?

2. Dick had 16¢ in his bank. He earned 25¢ running errands. Then his father gave him 18¢. How much money did Dick have then?

3. Joe is 48 in. tall. Fred is 52 in. tall. How many inches taller is Fred than Joe?

4. Ice cream cones cost 10¢ each. Bill bought 3 cones. How much did he pay for them?

5. Alice bought a doll for 35¢. She paid for it with 50¢. How much change did Alice get?

6. Jack paid 66¢ for 3 tickets to the movies. How much did each ticket cost?

7. Today eggs are selling at 48¢ a dozen. How much will Mother pay for $\frac{1}{2}$ doz. eggs?

8. Jane is going to camp this summer. She wants to buy a bathing suit for $1.95 and bathing shoes for $.49. How much will these things cost?

9. The girls bought 2 packages of paper cups. There were 12 cups in each package. How many paper cups did they buy in all?

10. Miss Day gave Mary 60¢ to buy 3-cent stamps. How many stamps did Mary get?

11. Betty had 75¢ when she went to the circus. When she came home she had 20¢ left. How much money did Betty spend?

ORAL REVIEW

1. Tell the date of today.
2. Name the months of the year in order.
3. Name the days of the week in order.

Tell the number of

4. feet in a yard.	inches in a foot.
5. pints in a quart.	quarts in a gallon.
6. dimes in a dollar.	things in a dozen.
7. hours in a day.	ounces in a pound.
8. nickels in a dime.	minutes in an hour.

9. Count by 2's from 864 to 892. Count by 5's from 485 to 515. Count by 10's from 660 to 730. Count by 100's from 283 to 683.

10. Which is more, $\frac{1}{3}$ of a pie or $\frac{1}{4}$ of a pie?

11. Find one half of each number: 14, 10, 18, 6, 12.

12. Read these prices: $2.95, $.28, $6.00, $8.05.

13. $ means . . . + means . . . × means . . .

14. ¢ means . . . ÷ means . . . − means . . .

15. Tell what these numbers mean: 1863; 2940; 3040.

Tell the answers:

16.	28 + 6	81 + 8	48 + 4	39 + 8	19 + 7
17.	35 + 8	45 + 9	36 + 9	54 + 9	46 + 6
18.	27 + 6	63 + 7	17 + 8	68 + 5	58 + 9
19.	49 + 5	32 + 9	86 + 5	24 + 6	67 + 5

1. Mary bought 2 tickets to the circus for 86¢. How much did she pay for each ticket?

2. Jack weighs 58 lb. Tom weighs 63 lb. How much more does Tom weigh than Jack?

3. There will be 20 children at the party. 4 children will sit at each table. How many tables do we need?

4. When school began in September our class had 25 packages of paper. Now we have only 5. How many packages of paper have we used?

5. Ned is saving money to buy a bed for his dog. The bed costs $1.19. Ned has already saved $.89. How much more money does he need?

6. Ann took 3 friends to the movies. Each ticket cost 33¢. How much did Ann pay for the 4 tickets?

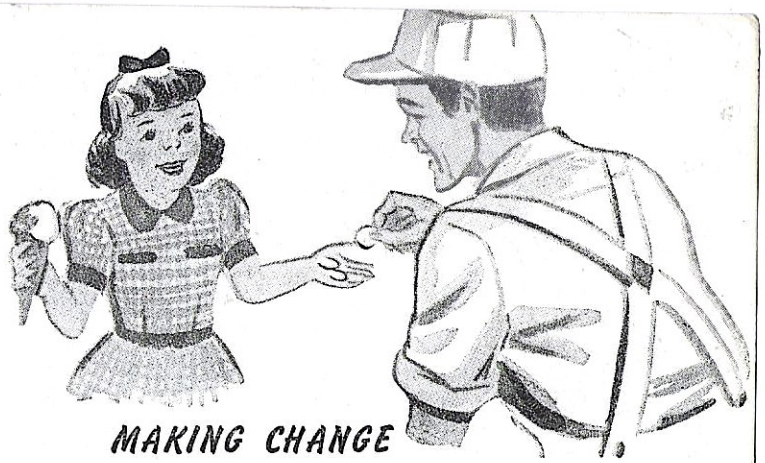
7. Sally wants a sweater that costs $2.98 and a pair of shoes that cost $1.95. How much money will she need to buy these things?

8. Fred had 30 chickens. He sold 10. How many chickens does he have now?

9. We have 3 busses to take 96 children to the zoo. If each bus takes the same number, how many children will ride in each bus?

10. Peggy is saving money for vacation. She had $2.50. She got $1.50 more on her birthday. How much does Peggy have now?

11. Peggy can save $.35 a week. How much can she save in 4 weeks?



MAKING CHANGE

1. Sally bought an ice cream cone for 7¢. She gave the man a quarter. The man gave her 3 pennies, a dime, and a nickel in change. As he gave her the change, he counted it like this: He began with the cost of the cone and said "7." Then he handed her 3 pennies and said "10"; next he gave her the dime and said "20"; and then he gave her the nickel and said "25." Tell how the man would count the change if the ice cream cone had cost 12¢ instead of 7¢.

2. Count the change from a quarter for things that cost: 11¢ 4¢ 13¢ 8¢ 17¢ 10¢ 21¢ 19¢

3. Count the change from 20¢ for things that cost: 15¢ 11¢ 18¢ 13¢ 17¢ 12¢ 16¢ 14¢

How many cents do these coins make?

4. 3 dimes
5. 4 nickels
6. 3 quarters
7. 1 quarter and 2 nickels
8. 3 nickels and 1 dime
9. 2 nickels and 3 dimes
10. 1 quarter, 1 dime, 1 nickel, and 2 pennies
11. 1 half dollar, 1 quarter, 1 dime, and 1 penny

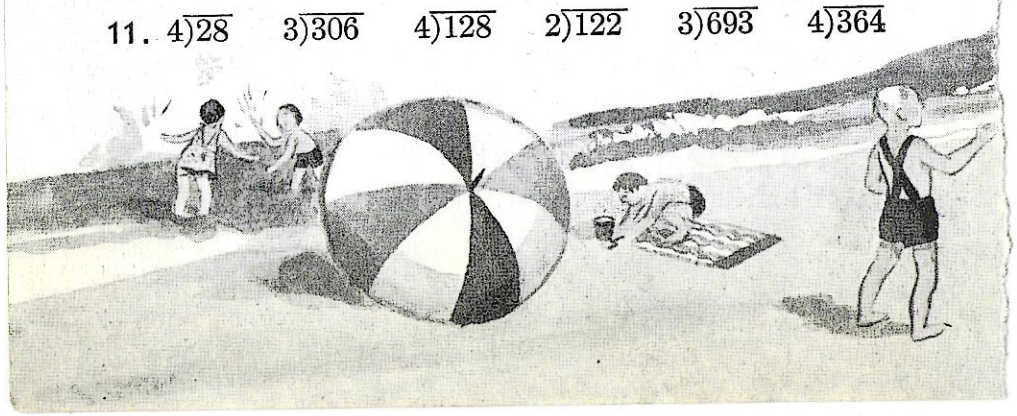
1. Tell the answers to the multiplication facts on page 276; to the division facts on page 277.

Multiply. Check by going over the work:

2.	69 × 2	28 × 4	102 × 4	271 × 3	\$2.54 × 2	\$1.15 × 4
3.	96 × 4	45 × 3	141 × 5	137 × 2	\$3.20 × 6	\$2.61 × 4
4.	79 × 3	98 × 2	152 × 4	493 × 3	\$1.12 × 8	\$2.32 × 4
5.	57 × 4	68 × 3	102 × 9	307 × 2	\$2.80 × 3	\$1.20 × 5
6.	86 × 2	34 × 4	104 × 8	328 × 3	\$2.12 × 7	\$1.21 × 4

Divide. Check the work by multiplying:

7.	3)27	4)200	3)183	2)244	4)840	2)146
8.	2)14	3)159	4)244	3)120	2)402	2)824
9.	4)32	2)188	4)804	3)249	4)280	3)213
10.	3)21	4)164	2)100	4)368	2)166	3)240
11.	4)28	3)306	4)128	2)122	3)693	4)364



The children in our class are making plans for the summer. They will do many interesting things.

1. Bill will go to camp on July 5 and come home on Sept. 6. How many weeks is that? Use a calendar.

2. Sally will go to camp for 2 weeks. It costs \$9.50 for 1 week. How much will it cost for 2 weeks?

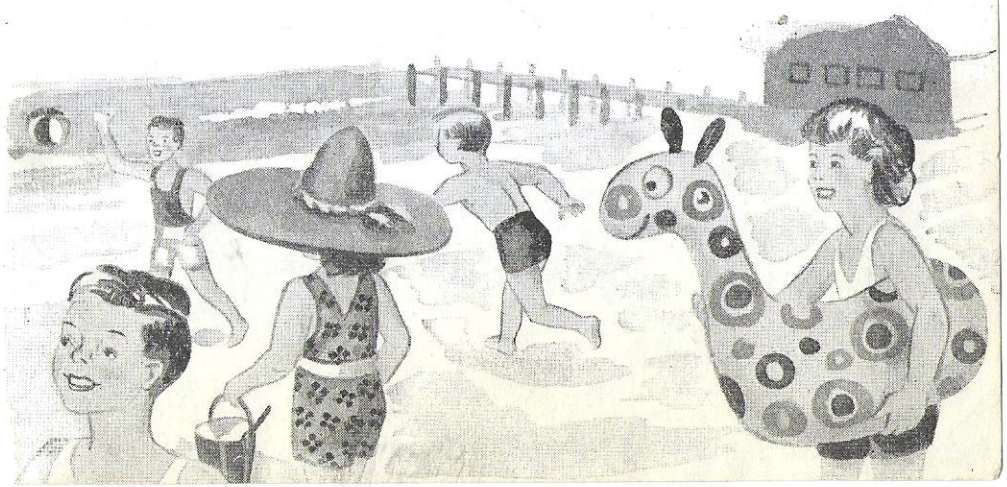
3. Jim and Joe are going to earn money for a bicycle. They want one that costs \$28. If they share the cost equally, how much must each boy earn?

4. Jack's uncle will take him to a large city. Jack is saving 75¢ each week for the trip. How much money can Jack save in 4 weeks?

5. Dick will go to Chicago by airplane and come home by train. It takes 4 hr. by airplane and 19 hr. by train. How much longer does it take by train?

6. Betty says the vacation is 12 weeks long. She will spend half of it at the beach. How many weeks will Betty be at the beach?

7. What interesting things will you do in the summer vacation? Can you make a problem for the class about your plans?



1. Multiply each of these numbers by 4 and add 2. Multiply each number by 4 and add 3:

6 2 9 5 1 10 7 4 8 3

Tell what numbers should be put in the spaces:

2. $4 \times 8 = 8 \times \ldots$ $6 \times 4 = 4 \times \ldots$ $16 \div 4 = \ldots$
3. $0 \times 4 = 4 \times \ldots$ $9 \times 4 = 4 \times \ldots$ $28 \div 4 = \ldots$
4. $5 \times 4 = 4 \times \ldots$ $4 \times 3 = 3 \times \ldots$ $36 \div 4 = \ldots$
5. $\frac{1}{4}$ doz. = . . . things $\frac{1}{4}$ gal. = . . . qt.
6. $\frac{1}{4}$ yd. = . . . in. $\frac{1}{4}$ lb. = . . . oz.
7. Which is larger, 1 quart or 1 gallon?
8. How many quarts are there in 2 gallons?

Multiply. Check the work by going over it again:

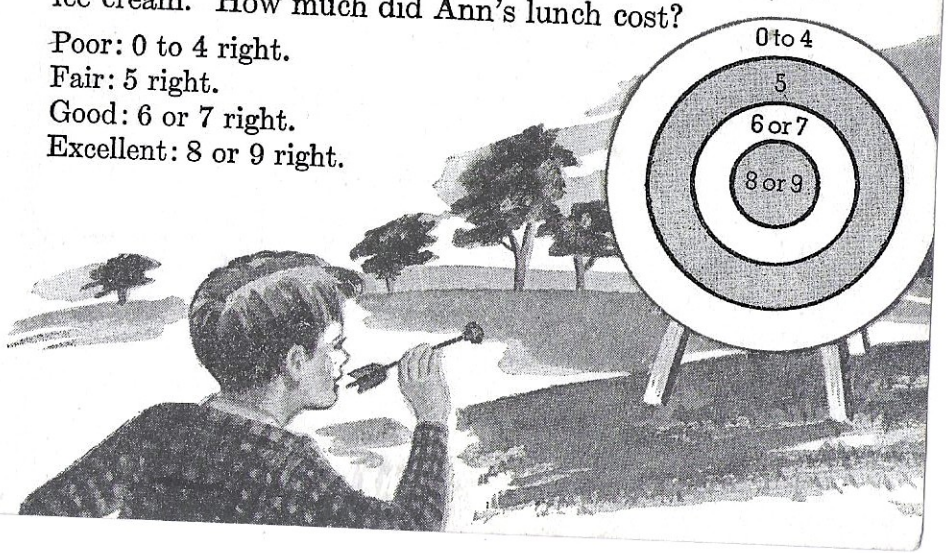
9.	27 × 4	34 × 4	182 × 4	260 × 4	419 × 4	305 × 4
10.	24 × 7	43 × 9	204 × 8	341 × 6	541 × 5	104 × 3
11.	42 × 8	56 × 4	314 × 5	241 × 7	192 × 4	114 × 6

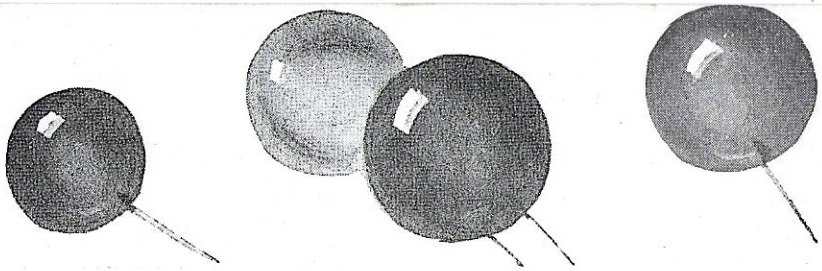
Divide. Check the work by multiplying:

12.	4)80	4)360	2)164	4)204	4)288
13.	4)44	4)164	4)244	3)306	3)900
14.	3)96	4)324	4)880	2)202	4)124

1. Jack's father put 5 gallons of maple sirup in quart jars. How many quart jars did he need?
2. Betsy has measured the windows of her room for curtains. She needs 24 ft. of material. How many yards should she buy?
3. Bill earned 80¢. He wants to put $\frac{1}{4}$ of it in his bank. How much money should he put in his bank?
4. Dick's father bought 36 tomato plants. He wants to put them in 4 equal rows. How many plants can he put in each row?
5. Bus tickets from Jane's home to the city cost $1.35 each. How much do 4 tickets cost?
6. How much change should Ann get from $5.00 if her ticket to camp costs $2.70?
7. Three girls paid 60¢ for a box of candy for their mother. What was each girl's share of the cost?
8. Helen was 36 in. tall in September. Now she is 40 in. tall. How much taller is Helen now than she was in September?
9. Ann paid 8¢ for a sandwich, 6¢ for milk, and 9¢ for ice cream. How much did Ann's lunch cost?

Poor: 0 to 4 right.
Fair: 5 right.
Good: 6 or 7 right.
Excellent: 8 or 9 right.





DO YOU NEED HELP?

If you miss more than one example in any row, turn to the Practice Pages for that row.

							PRACTICE PAGES
Multiply these numbers:							
1. 4	7	4	3	4	4	4	262
9	4	5	4	8	4	2	
Multiply and check the work:							
2. 45	31	78	260	319			264
4	4	4	4	4			
3. 36	69	341	$.49	$2.08			265
4	2	7	3	4			
4. 34	42	304	$.45	$1.92			265
5	8	9	4	4			
Divide these numbers:							
5. 4)36	4)20	4)28	4)16	4)24			271
6. 4)88	3)90	4)244	2)604	4)320			275
7. 3)66	4)40	2)120	4)284	4)128			275
Find the answers:							
8. $\frac{1}{4}$ of 16	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 24					272

Diagnostic test.

If you can do the exercises on this page with few or no mistakes, you are ready for the next grade.

1. Say the answers to all the number facts on pages 73, 74, 276, and 277.

2. Count to 100 by 2's; by 5's; by 10's.

3. Tell what these numbers mean: 408; 2005; 7800.

4. Add:	5. Subtract:	6. Subtract:	7. Add:
$8.75	493	800	58
3.39	258	621	73
1.06			86
			39

8. Multiply:	9. Divide:	10. Divide:	11. Add:
792	3)273	4)840	374
4			567

12. Fred paid 12¢ for a balloon. He gave the man a half dollar. How much change did Fred get?

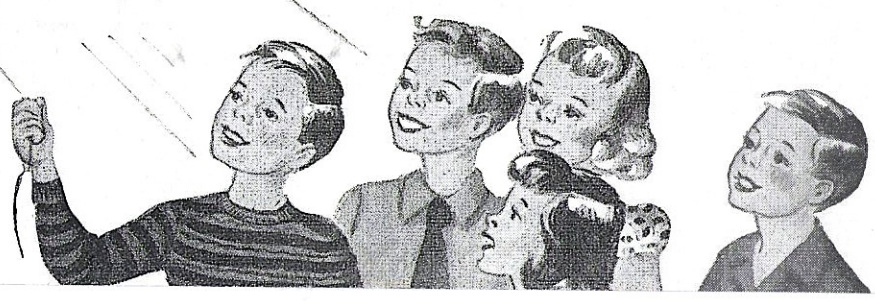
13. Count Fred's change in two different ways.

14. Find the cost of 4 baseballs at $.95 each.

15. Three girls bought a book for 69¢. They shared the cost equally. How much did each girl pay?

16. Bill and Jack collected old papers. Bill got 55 lb. and Jack got 48 lb. How many more pounds did Bill have than Jack?

Promotion test.



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Answers

Page 13. — **4.** 50. **5.** 2. **6.** 2. **7.** 5. **8.** 75. **9.** 35. **10.** 70. **11.** 65.

Page 14. — **2.** 89. **3.** 79; 98; 65; 67; 99; 89; 55; 65. **4.** 88; 98; 86; 44; 63; 89; 77; 63. **5.** 93; 77; 22; 49; 67; 90; 88; 67. **6.** 38; 79; 50; 77; 64; 99; 59; 88. **7.** 90; 78; 97; 98; 49; 36; 84; 59.

Page 31. — **2.** 22; 41; 61; 20; 51; 30; 23; 35. **3.** 21; 47; 41; 50; 13; 12; 46; 36. **4.** 43; 54; 57; 84; 23; 51; 50; 71. **5.** 65; 21; 20; 44; 12; 31; 32; 29.

Page 32. — **1.** 67¢. **2.** 10¢. **3.** 11 books. **4.** 74¢. **5.** 10 children. **6.** 70 marbles. **7.** 37 hours. **8.** 10¢. **9.** 27 cookies. **10.** 30¢. **11.** 10 leaves.

Page 33. — **1.** 9 pets. **2.** 9¢. **3.** 15¢. **4.** 7 pennies. **5.** 35¢. **6.** 5 cookies. **7.** 6 glasses. **8.** 24 pumpkins. **9.** 14 pumpkins. **10.** 10 pencils.

Page 34. — **1.** 30¢. **2.** 14 tickets. **3.** 54 flowers. **4.** 95¢. **5.** 36 chickens. **6.** 78; 69; 99; 37; 99; 95; 65. **7.** 87; 86; 76; 83; 48; 47; 25. **8.** 31; 33; 10; 40; 15; 14; 24. **9.** 13; 22; 13; 25; 25; 20; 43.

Page 35. — **15.** 37; 58; 59; 80; 67; 85; 66. **16.** 73; 15; 53; 20; 35; 10; 12.

Page 39. — **1.** 22 pages. **2.** 35 books. **3.** 10 squirrels. **4.** 6 eggs. **5.** 34¢. **6.** 68¢. **7.** 32¢. **8.** 18 cookies. **9.** 39 eggs. **10.** 15 eggs. **11.** 7¢. **12.** 16¢.

Page 49. — **2.** 108 automobiles. **3.** 107; 136; 104; 148; 115; 104; 174; 114. **4.** 127; 176; 156; 109; 167; 106; 106; 185. **5.** 108; 119; 106; 187; 138; 176; 145; 108. **6.** 144; 108; 107; 109; 157; 117; 179; 109. **7.** 109; 153; 129; 109; 183; 108; 135; 178. **8.** 109; 108; 108; 109; 137; 169; 118; 138.

Page 50. — **2.** 53; 53. **3.** 91; 74; 74; 55; 90; 24. **4.** 76; 46; 67; 85; 11; 73. **5.** 66; 92; 83; 62; 83; 62. **6.** 71; 82; 85; 54; 73; 64. **7.** 62; 88; 60; 21; 43; 57. **8.** 87; 94; 70; 71; 83; 65. **9.** 74; 33; 57; 50; 84; 91.

Page 51. — **1.** 17 marbles. **2.** 8 marbles. **3.** 7 dolls. **4.** 8 marbles. **5.** 13 tickets. **6.** 5 tickets. **7.** 7 tickets. **8.** 9 cents. **9.** 6 cents. **10.** 47¢. **11.** 12 cookies.

Page 57. — **1.** 7 dolls. **2.** 22 dolls. **3.** 15¢. **4.** 10¢. **5.** 10¢. **6.** 25¢. **7.** 12 books. **8.** 17 carrots. **9.** 57 chairs. **10.** 3 candles. **11.** 9 balloons. **12.** 12 pencils.

Page 62. — **1.** 34 pounds. **2.** 177 papers. **3.** 40 marbles. **4.** 95. 92; 71; 71; 23; 84. **5.** 81; 94; 66; 94; 96; 41. **6.** 53; 92; 84; 70; 71; 94. **7.** 25; 44; 95; 91; 72; 76. **8.** 85; 22; 92; 62; 68; 53; **9.** 91; 81; 53; 93; 60; 72. **10.** 94; 70; 31; 86; 64; 76. **11.** 60; 93; 94; 58; 60; 40.

Page 63. — **1.** 10; 15; 7; 10; 15; 10; 11; 10. **2.** 12; 16; 13; 11; 9; 13; 14; 17. **3.** 13; 10; 15; 11; 15; 14; 16; 12. **4.** 13; 13; 13; 16; 16; 14; 11; 11. **5.** 164; 129; 157; 136; 116; 138; 179. **6.** 114; 139; 149; 158; 155; 146; 147. **7.** 116; 177; 128; 105; 125; 187; 104. **8.** 158; 138; 109; 166; 169; 103; 119. **9.** 108; 174; 139; 103; 102; 157; 108.

Page 68. — **1.** 75 pages. **2.** 36 sheets. **3.** 158 tickets; 12 tickets. **4.** 115 stamps. **5.** 10 sheets. **6.** 23¢.

Page 69. — **1.** 119; 178; 128; 127; 147; 139; 139. **2.** 107; 147; 119; 119; 156; 156; 127. **3.** 128; 129; 145; 166; 137; 108; 139. **4.** 135; 118; 118; 148; 125; 159; 116. **5.** 120; 104; 136; 174; 136; 115; 163. **6.** 42; 85; 73; 87; 92; 35. **7.** 63; 95; 82; 93; 34; 60. **8.** 84; 76; 83; 86; 54; 81. **9.** 82; 73; 47; 92; 31; 54. **10.** 21; 71; 82; 61; 70; 38.

Page 75. — **1.** 45¢. **2.** 15¢. **3.** 22¢. **4.** 15¢. **5.** 15¢. **6.** 6 cookies. **7.** 15 birds. **8.** Yes, 27¢. **9.** 4 blue pencils. **10.** 11 tickets.

Page 76. — **2.** 25¢. **3.** 13¢. **4.** 6¢. **5.** 15¢. **6.** 9; 13; 13; 11; 11; 10; 11; 11. **7.** 115; 128; 127; 109; 129; 126; 119; 169. **8.** 68; 98; 107; 157; 117; 149; 84; 116. **9.** 129; 136; 104; 166; 117; 185; 158; 118. **10.** 30; 12; 73; 88; 53; 75; 34. **11.** 35; 42; 46; 55; 63; 60; 75. **12.** 50; 22; 21; 92; 81; 60; 44. **13.** 22; 60; 43; 86; 91; 81; 90.

Page 77. — **3.** 9; 10; 15; 11; 9; 13; 10. **4.** 158; 185; 109; 125; 129; 168. **7.** 14; 75; 53; 90; 75. **8.** 44; 94; 97; 35; 62. **9.** 51; 72; 75; 40; 34.

Page 80. — **3.** 1620; 1005. **4.** 1015; 1740. **5.** 1809; 1011. **6.** 1492. **7.** 1520.

Page 81. — **1.** 14 balloons. **2.** 9 goldfish. **3.** 11; 13; 15; 14; 11; 12; 13; 11; 12. **4.** 13; 15; 11; 11; 11; 11; 12; 13; 11. **5.** 11; 13; 11; 11; 11; 14; 13; 12; 14. **6.** 12; 11; 13; 15; 15; 12; 16; 13; 11. **7.** 12; 11; 12; 12; 12; 12; 13; 12; 11. **8.** 12; 11; 16; 13; 14; 11.

Page 82. — **1.** 12 models. **2.** 35 dolls. **3.** 11 dolls. **4.** 28 bird houses. **5.** 12 bird houses.

Page 83. — **6.** 11 puppets. **7.** 94 stamps. **8.** 69 buttons.

Page 84. — **1.** 54 papers. **2.** 65 papers. **3.** 119 papers. **4.** 179; 125; 88; 129; 109; 106; 96; 145. **5.** 108; 97; 174; 116; 89; 187; 119; 139. **6.** 126; 114; 76; 135; 87; 103; 166; 158. **7.** 89; 117; 169; 105; 135; 79; 132; 109. **8.** 103; 97; 135; 127; 89; 128; 94; 98. **9.** 88; 157; 148; 109; 127; 147; 118; 87. **10.** 113; 154; 144; 69; 108; 116; 106; 168. **11.** 129; 57; 114; 135; 126; 130; 146; 102.

Page 85. — **2.** 938 children. **3.** 664; 975; 565; 869; 884; 778. **4.** 529; 388; 995; 874; 957; 1169. **5.** 1079; 456; 876; 1387; 846; 595. **6.** 739; 783; 1248; 864; 1279; 650. **7.** 486; 1237; 685; 1193; 290; 786. **8.** 504; 1578; 937; 1157; 478; 764.

Page 88. — **1.** 92 pages. **2.** 259 pages. **3.** 67 stamps. **4.** 23 girls. **5.** 117 tickets. **6.** 355 chickens. **7.** 14 eggs. **8.** 23 white chickens.

Page 89. — **1.** 12¢. **2.** 42 tickets. **3.** 23 tickets. **4.** 23; 13; 41; 71; 99; 52; 16. **5.** 42; 41; 35; 71; 91; 83; 82. **6.** 12; 74; 32; 33; 91; 58; 44. **7.** 25; 46; 16; 86; 94; 78; 86. **8.** 84; 54; 76; 32; 51; 62; 92. **9.** 21; 43; 73; 75; 75; 84; 87. **10.** 27; 53; 22; 91; 45; 62; 93. **11.** 35; 23; 56; 37; 44; 62; 75.

Page 90. — **2.** 155; 142; 124; 322; 352; 331. **3.** 340; 704; 166; 461; 513; 510. **4.** 321; 133; 133; 163; 255; 214. **5.** 267; 444; 334; 454; 622; 621.

Page 92. — **3.** 3; 65; 8; 813; 32; 352. **4.** 72; 4; 196; 644; 14; 531. **5.** 42; 6; 6; 7; 430; 322. **6.** 7; 2; 641; 722; 13; 2.

Page 94. — **1.** 12 dolls. **2.** 14 stockings. **3.** 29 stockings. **4.** 13¢.

Page 95. — **5.** 22 bags. **6.** 7 airplanes. **7.** 15 boxes. **8.** 11 sheets. **9.** 95¢.

Page 99. — **1.** 12 children. **2.** 11 snowballs. **3.** 11 snowballs. **4.** 75¢. **5.** No; 14¢. **6.** 4:15. **7.** 1 hour. **8.** 45¢. **9.** 53¢.

Page 102. — **1.** 19¢. **2.** 16¢. **3.** 18¢. **4.** 17¢. **5.** 12; 15; 16; 15; 17; 12; 16; 17; 17. **6.** 18; 14; 13; 19; 16; 16; 19; 19; 19. **7.** 15; 19; 19; 16; 18; 19; 19; 16; 13. **8.** 16; 16; 17; 16; 16; 17; 19; 19; 17. **9.** 18; 15; 16; 14; 19; 14; 17; 18; 17.

Page 104. — **1.** 11; 12; 14; 11; 11; 14; 14; 14; 17. **2.** 15; 16; 13; 18; 16; 13; 14; 15; 16. **3.** 17; 12; 16; 11; 15; 19; 18; 12; 19. **4.** 14; 16; 15; 13; 19; 16; 15; 13; 18. **5.** 19; 15; 18; 16; 15; 18; 17; 16; 19. **6.** 17; 17; 15; 18; 18; 18; 13; 18; 16. **7.** 19; 16; 12; 11; 13; 17; 19; 19; 19. **8.** 14; 14; 13; 12; 14; 19; 17; 17; 17.

Page 105. — **1.** 58 papers. **2.** 27 roses. **3.** 17¢. **4.** 56 papers. **5.** 17¢. **6.** 26 marbles. **7.** 356 stamps.

Page 106. — **8.** 410; 32. **9.** 5; 194. **10.** 22; 9; 21; 36; 45; 72; 4. **11.** 82; 41; 10; 3; 90; 26; 205. **12.** 136; 178; 124; 148; 1057; 1667; 1277. **13.** 119; 155; 119; 125; 1284; 1398; 1486. **14.** 10; 10; 11; 12; 14; 16; 17; 17; 17.

Page 107. — **1.** 20¢. **2.** 18 pages. **3.** 15 fish. **4.** 21 cookies. **5.** 16 girls. **6.** 6 cards. **7.** 19 leaves. **8.** 20¢. **9.** 18¢. **10.** 21¢.

Page 108. — **1.** 1693. **2.** 807. **12.** 98; 155; 130; 488; 679; 169. **13.** 43; 53; 222; 206; 7; 23. **14.** 15; 19; 19; 18; 14; 17; 19; 18. **15.** 14; 19; 14; 17; 18; 19; 17; 19.

Page 109. — **1.** 97; 87; 138; 165; 116; 135. **2.** 49; 37; 59; 69; 27; 79. **3.** 774; 869; 396; 1193; 469. **4.** 13; 12; 16; 11; 11; 12. **5.** 14; 17; 18; 16; 19; 14. **6.** 73; 63; 25; 21; 21; 44. **7.** 94; 82; 93; 85; 85. **8.** 235; 413; 154; 222; 232. **9.** 6; 511; 46; 213; 7.

Page 111. — **1.** 18 cards. **2.** 17¢. **3.** 23 cards. **4.** 45¢. **5.** 55 cards. **6.** 21 cards. **7.** 24 cards.

Page 112. — **2.** 47 books. **3.** 78; 98; 99; 108; 79; 67; 99; 119. **4.** 89; 96; 149; 86; 119; 117; 84; 148. **5.** 167; 147; 109; 158; 157; 169; 157; 159.

Page 113. — **1.** 89; 108; 119; 148; 148; 118; 98; 127. **2.** 87; 119; 139; 119; 138; 119; 146; 129. **3.** 129; 119; 147; 129; 139; 147; 119; 168. **4.** 129; 119; 115; 155; 116; 98; 167; 159. **5.** 136; 128; 129; 137; 158; 149; 124; 119. **6.** 147; 138; 129; 146; 166; 189; 117; 168.

Page 116. — **2.** 20; 22; 20; 21; 22; 19; 23; 15; 23. **3.** 22; 20; 19; 21; 22; 21; 14; 16; 13.

Page 117. — **1.** 21¢. **2.** 24¢. **3.** 24 eggs. **4.** 23; 24; 21; 22; 24; 21; 25; 21; 22. **5.** 24; 21; 24; 22; 20; 22; 22; 23; 27. **6.** 20; 21; 23; 21; 24; 21; 22; 23; 20.

Page 118. — **1.** 39 children. **2.** 20 stars. **3.** 23 balls. **4.** 10¢. **5.** 25 candy canes.

Page 119. — **6.** 84 cookies. **7.** 60 sandwiches.

Page 121. — **1.** 31 marbles. **2.** 31 oranges. **3.** 33¢. **4.** 82 stamps. **5.** 9 eggs. **6.** 24 ducks. **7.** 10 eggs. **8.** 20 tickets. **9.** 12 nuts.

Page 122. — **1.** 23¢. **2.** 23¢. **3.** 21¢. **4.** 17¢.

Page 123. — **5.** 26¢. **6.** 23¢. **7.** 16; 13; 23; 17; 21; 16; 16; 17; 22. **8.** 19; 24; 22; 14; 26; 24; 19; 21; 22.

Page 124. — **1.** 28; 56; 92; 62; 81; 83. **2.** 11; 54; 94; 52; 80; 75. **3.** 32; 54; 40; 42; 42; 61. **4.** 31; 23; 11; 85; 90; 67. **5.** 51; 26; 96; 94; 93; 74. **6.** 44; 31; 324; 520; 211; 843. **7.** 78; 32; 522; 162; 511; 430. **8.** 6; 41; 433; 527; 6; 6. **9.** 10; 16; 474; 6; 304; 512. **10.** 27; 21; 542; 328; 604; 336. **11.** 4; 35; 313; 512; 211; 50.

Page 125. — **1.** 47¢. **2.** 22¢. **3.** 35¢. **4.** 35¢. **5.** 13 days. **6.** 64 girls. **7.** 39¢. **8.** 33¢. **9.** 30¢. **10.** 295 people. **11.** 75 people.

Page 128. — **2.** 31 children. **3.** 33 children.

Page 129. — **4.** 52 people. **5.** 23 people. **6.** 51 bags. **7.** 31 birds. **8.** 33 airplanes.

Page 130. — **1.** 101; 83; 71; 105; 93; 81; 84; 71. **2.** 81; 107; 162; 90; 73; 171; 46; 75. **3.** 65; 103; 170; 68; 71; 103; 92; 65. **4.** 117; 91; 62; 120; 142; 120; 74; 86. **5.** 92; 62; 126; 81; 64; 122; 50; 94. **6.** 74; 80; 52; 148; 103; 151; 124; 76. **7.** 120; 76; 80; 103; 105; 81; 41; 53. **8.** 165; 90; 133; 83; 131; 134; 82; 135. **9.** 55; 41; 72; 73; 34; 70; 85; 77. **10.** 63; 82; 60; 93; 44; 67; 80; 58.

Page 131. — **2.** 70¢. **3.** 72¢. **4.** 51 pictures.

Page 132. — **1.** 129; 136; 124; 102; 86; 115; 189; 126. **2.** 161; 92; 195; 145; 114; 170; 91; 131. **3.** 127; 160; 153; 149; 94; 175; 181; 138. **4.** 92; 138; 163; 149; 191; 88; 182; 98. **5.** 166; 185; 174; 150; 176; 179; 189; 160. **6.** 81; 195; 159; 148; 76; 189; 168; 151.

Page 134. — **2.** 92¢.

Page 135. — **3.** 40¢. **4.** 74¢. **5.** 57¢. **6.** 92¢. **7.** 48; 57; 83; 51; 56; 72; 88; 42.

Page 136. — **1.** 92 pupils. **2.** Yes. **3.** 141; 122; 170; 101; 112; 113; 133; 120. **4.** 101; 102; 125; 125; 160; 106; 145; 84. **5.** 134; 115; 102; 142; 100; 133; 117; 100. **6.** 108; 141; 126; 111; 156; 143; 145; 142. **7.** 209; 119. **8.** 187; 190. **9.** 185; 167. **10.** 207; 173. **11.** 206; 173. **12.** 152; 219. **13.** 132; 105.

Page 138. — **1.** 95¢. **2.** 15¢. **3.** 145 stamps. **4.** 6 sheets. **5.** 20¢. **6.** 18¢. **7.** January 4. **8.** 38¢. **9.** 10 boys. **10.** 44¢.

Page 139. — **2.** 39¢. **3.** 8 papers.

Page 140. — **2.** 9¢. **3.** 9 dolls. **4.** 35¢. **5.** 16¢. **6.** 15 minutes.

Page 141. — **1.** 38; 39; 44; 45; 59; 36; 28; 19. **2.** 27; 24; 38; 44; 28; 66; 55; 48. **3.** 29; 19; 35; 19; 18; 48; 57; 24. **4.** 19; 27; 69; 74; 18; 15; 49; 19. **5.** 12; 17; 32; 37; 28; 77; 43; 15. **6.** 57; 66; 16; 35; 56; 27; 43; 28. **7.** 18; 69; 19; 38; 57; 29; 22; 29. **8.** 17; 31; 39; 56; 57; 29; 28; 58. **9.** 64; 14; 56; 77; 35; 19; 44; 18. **10.** 24; 26; 37; 29; 34; 17; 18; 66. **11.** 53; 26; 17; 45; 27; 54; 29; 65.

Page 142. — **1.** 27¢. **2.** 7¢. **3.** 17¢. **4.** 19¢. **5.** 30 children. **6.** 18¢. **7.** 9 cookies. **8.** 15 boys. **9.** 19 tickets. **10.** 18 dolls.

Page 143. — **1.** 7 snowballs. **2.** 3 minutes. **3.** 4 black mice. **4.** 14¢. **5.** 9; 23; 4; 36; 35; 28; 47; 6. **6.** 55; 6; 49; 28; 26; 7; 59; 25. **7.** 7; 34; 47; 9; 66; 8; 45; 7. **8.** 75; 64; 8; 46; 2; 38; 6; 29. **9.** 29; 8; 47; 7; 39; 3; 69; 26. **10.** 18; 24; 8; 63; 33; 7; 39; 15. **11.** 25; 8; 52; 44; 29; 41; 28; 15.

Page 144. — **1.** 8 marbles. **2.** 16 apples. **3.** 27¢. **4.** 90 stamps. **5.** 3 eggs. **6.** 15 eggs. **7.** 28¢.

Page 145. — **1.** 17¢. **2.** 48 cookies. **3.** 61 children. **4.** 34¢. **5.** 3 chickens. **6.** 17¢. **7.** 94¢. **8.** 15 sugar cookies. **9.** 72¢. **10.** 26 rabbits. **11.** 7 flowers. **12.** 70¢.

Page 146. — **1.** 41; 29; 26; 15; 100; 63; 12. **2.** 58; 31; 44; 14; 52; 85; 75. **3.** 15; 3; 27; 39; 93; 94; 204. **4.** 16; 17; 36; 32; 641; 13; 46. **5.** 16; 25; 48; 41; 30; 241; 73. **6.** 28; 33; 55; 6; 481; 54; 53. **7.** 17; 57; 33; 24; 402; 2; 86. **8.** 58; 4; 37; 76; 51; 122; 15. **9.** 25; 47; 26; 30; 166; 52; 65. **10.** 29; 71; 58; 74; 8; 30; 100. **11.** 30; 11; 29; 29; 55; 34; 181.

Page 147. — **1.** 38¢. **2.** 15¢. **3.** 85 marbles. **4.** 19 apple pies. **5.** 53 books. **6.** 4 turkeys. **7.** 33 pages. **8.** 17.

Page 148. — **1.** 15; 19; 19; 21; 24; 22; 23; 23. **2.** 88; 79; 97; 98; 94; 91; 88; 78. **3.** 25; 60; 39; 17; 12; 27; 37; 4.

Page 149. — **1.** 87; 99; 95; 88; 98; 97. **2.** 24; 53; 66; 31; 42; 70. **3.** 94; 83; 63; 70; 84; 74. **4.** 62; 85; 89; 70; 92; 91. **5.** 27; 25; 23; 21; 22; 22. **6.** 40; 43; 11; 21; 7; 55. **7.** 60; 231; 46; 6; 80; 200. **8.** 36; 48; 26; 24; 48; 38.

Page 152. — **9.** 4100; 5000. **10.** 9012; 1900. **11.** 4600; 2005.

Page 154. — **2.** 1 ten. **3.** 373 stamps. **4.** 354 stamps.

Page 155. — **1.** 440; 964; 774; 850; 472; 690. **2.** 664; 286; 968; 851; 951; 776. **3.** 1390; 931; 634; 650; 992; 982. **4.** 891; 372; 791; 1087; 870; 883. **5.** 890; 1076; 373; 861; 591; 395. **6.** 943; 663; 982; 564; 837; 853. **7.** 450; 1083; 495; 972; 774; 521. **8.** 761; 1063; 965; 562; 285; 1082. **9.** 334; 411; 670; 543; 443; 980. **10.** 251; 356; 655; 772; 883; 790. **11.** 541; 773; 478; 664; 637; 450.

Page 156. — **1.** 320 shells. **2.** 6 books. **3.** 21 valentines. **4.** 8 valentines. **5.** Yes; 11¢. **6.** 262 tickets. **7.** 222 tickets. **8.** 40 tickets. **9.** 58¢. **10.** Yes.

Page 157. — **2.** 1 hundred. **3.** 505 miles. **4.** 655 children. **5.** 546 letters. **6.** 624 cans. **7.** 304 pages.

Page 158. — **1.** 835; 509; 809; 884; 933; 351. **2.** 509; 738; 318; 1174; 629; 725. **3.** 806; 828; 779; 608; 683; 906. **4.** 866; 1163; 608; 1183; 767; 319. **5.** 628; 809; 1794; 1027; 975; 444. **6.** 853; 1007; 927; 544; 1081; 907. **7.** 359; 1764; 827; 915; 1056; 1625. **8.** 1351; 836; 919; 439; 1243; 986. **9.** 244; 636; 681; 705; 675; 527. **10.** 320; 784; 335; 584; 506; 721. **11.** 855; 426; 518; 840; 685; 609.

Page 159. — **2.** 232 cookies. **3.** 215 children.

Page 160. — **1.** 912; 941; 950; 934; 624; 837. **2.** 745; 803; 705; 901; 871; 512. **3.** 726; 713; 553; 820; 631; 302. **4.** 772; 968; 863; 906; 850; 644. **5.** 834; 554; 760; 902; 440; 725. **6.** 517; 901; 505; 453; 810; 752. **7.** 824; 603; 822; 648; 810; 730. **8.** 471; 926; 631; 411; 973; 610. **9.** 732; 511; 332; 634; 900; 811. **10.** 666; 600; 728; 701; 823; 562. **11.** 300; 833; 500; 954; 523; 505.

Page 161. — **2.** $5.90; $8.73; $4.42; $6.81; $1.27. **3.** $7.37; $9.05; $9.20; $8.03; $1.31. **4.** $7.61; $3.01; $9.28; $8.45; $1.62. **5.** $4.26; $5.85; $9.38; $9.84; $1.97. **6.** $8.27; $9.29; $8.80; $9.75; $1.71. **7.** $8.90; $3.30; $9.27; $3.25; $1.85.

Page 162. — **1.** $3.04. **2.** $1.50. **3.** $1.60. **4.** $1.10. **5.** $5.25.

Page 164. — **2.** $6.40; $7.50; $8.05; $6.02; $1.00. **3.** $7.08; $6.12; $9.13; $8.66; $1.02. **4.** $6.40; $5.00; $8.03; $4.06; $.12. **5.** $7.70; $8.54; $9.09; $8.82; $1.50. **6.** $2.67; $8.09; $3.73; $5.00; $1.01. **7.** $7.13; $6.70; $5.15; $3.00; $1.10.

Page 165. — **1.** 9 valentines. **2.** 20¢. **3.** 15 children. **4.** 52; 28; 65; 14; 71; 83; 183. **5.** 42; 1; 45; 48; 461; 474; 42. **6.** 56; 34; 16; 14; 33; 411; 73. **7.** 27; 32; 59; 29; 2; 94; 51. **8.** 2; 58; 38; 35; 276; 2; 73. **9.** 14; 45; 35; 26; 32; 73; 90.

Page 166. — **2.** $1.60. **3.** 17¢. **4.** $2.55. **5.** $1.70. **6.** $2.10.

Page 175. — **2.** 86; 26; 64; 88; 68; 648; 268.

Page 176. — **2.** 108 flowers. **3.** 48 flowers. **4.** 24; 106; 68; 164; 44; 246; 682. **5.** 102; 146; 122; 82; 186; 288; 864. **6.** 166; 22; 184; 126; 84; 644; 486. **7.** 104; 168; 148; 188; 162; 862; 282. **8.** 128; 142; 64; 86; 104; 284; 824.

Page 177. — **2.** 98; 50; 192; 116; 854; 436. **3.** 136; 110; 154; 190; 678; 492. **4.** 114; 172; 112; 158; 652; 274. **5.** 150; 174; 130; 176; 472; 838. **6.** 132; 76; 90; 118; 494; 654. **7.** 170; 178; 156; 194; 858; 292.

Page 179. — **3.** $6.90; $2.54; $8.36; $1.34; $1.98. **4.** $4.46; $6.38; $4.50; $1.96; $1.98. **5.** $6.36; $8.88; $6.88; $.52; $.96. **6.** $8.34; $8.82; $4.28; $1.54; $1.38.

Page 181. — **1.** 141; 208; 216; 188; 206; 139; 174. **2.** 817; 701; 784; 903; 949; 723. **3.** 800; 705; 910; 628; 744; 672. **4.** 461; 305; 861; 681; 445; 530. **5.** 828; 513; 366; 214; 537; 400. **6.** 29; 49; 245; 108; 761; 205. **7.** 35; 56; 243; 841; 7; 663. **8.** 18; 58; 39; 7; 95; 72. **9.** 29; 39; 63; 27; 52; 91. **10.** 26; 26; 54; 3; 60; 334.

Page 184. — **2.** 200 papers. **3.** 105 papers. **4.** 160; 189; 20; 38; 918; 214; 600. **5.** 134; 72; 180; 100; 636; 816; 110. **6.** 154; 120; 78; 178; 642; 808; 632. **7.** 102; 96; 60; 44; 630; 820; 816. **8.** 80; 162; 88; 192; 800; 434; 618. **9.** 75; 63; 160; 116; 490; 560; 714.

Page 185. — **1.** 32 plants. **2.** 36 plants. **3.** 60 cups. **4.** 72 napkins. **5.** 36¢. **6.** $1.10. **7.** 94¢. **8.** 48¢.

Page 186. — **1.** $2.40. **2.** $1.70. **3.** 30¢. **4.** 476 stamps. **5.** 37¢. **6.** No.

Page 187. — **1.** 11 beads. **2.** 70 marbles. **3.** 24 tickets. **4.** 220 miles. **5.** 30 miles. **6.** $2.58. **7.** 60¢. **8.** 84 children.

Page 188. — **1.** 15¢; $.15; $0.15. **8.** 603; 610; 471; 407; 810; 792. **9.** 713; 722; 846; 615; 749; 464. **10.** 84; 120; 70; 612; 600; 850. **11.** 148; 182; 176; 480; 634; 560. **12.** 172; 160; 94; 366; 1464; 484.

Page 189. — **1.** $3.13; $5.08; $3.28; $7.57. **2.** $4.20; $4.52; $4.10; $6.54. **3.** 783; 1052; 683; 952; 682. **4.** 944; 708; 916; 558; 926. **5.** 873; 641; 644; 512; 613. **6.** 84; 46; 142; 1282; 1664. **7.** 56; 90; 190; 74; 112. **8.** $1.18; $1.76; $.92; $1.08; $.70. **9.** 100; 96; 120; 633; 784.

Page 191. — **1.** 684 cookies. **2.** 132 cookies. **3.** 6 cookies. **4.** 30 orange cookies. **5.** 24 cookies. **6.** $.70. **7.** 660 cookies.

Page 192. — **2.** 244 children. **3.** 418; 614; 317; 357; 119; 349. **4.** 317; 248; 559; 459; 457; 135. **5.** 228; 737; 345; 116; 219; 727. **6.** 128; 438; 563; 235; 116; 129. **7.** 335; 146; 246; 425; 519; 216. **8.** 318; 314; 667; 325; 117; 574. **9.** 43; 389; 131; 6; 27; 208.

Page 193. — **1.** 114; 249; 36; 418; 218; 247. **2.** 384; 114; 466; 438; 732; 515. **3.** 257; 556; 18; 148; 239; 27. **4.** 365; 26; 425; 379; 369; 327. **5.** 318; 26; 168; 9; 34; 62. **6.** 138; 148; 443; 479; 133; 307. **7.** 157; 236; 29; 505; 669; 19. **8.** 213; 21; 8; 5; 837; 107. **9.** 17; 108; 346; 15; 126; 7. **10.** 504; 335; 149; 236; 147; 219. **11.** 119; 228; 142; 355; 334; 44.

Page 194. — **2.** 4¢, 5¢, 10¢; 1 cent and 1 nickel. **3.** 5¢, 15¢, 25¢; 2 dimes.

Page 195. — **4.** 5¢, 10¢, 15¢, 25¢; 5¢, 10¢, 15¢, 20¢, 25¢. **5.** 12¢, 15¢, 20¢; 3 cents and 1 nickel. **6.** 1 cent, 1 dime; 2 cents, 2 dimes; 2 cents, 1 nickel; 1 dime, 1 nickel; 1 dime; 4 cents, 1 nickel, 1 dime; 1 nickel.

Page 196. — **2.** 18¢, 19¢, 20¢, 25¢, 30¢, 40¢, 50¢. **3.** 3 cents, 1 quarter; 22¢, 25¢, 50¢. 2 cents, 1 dime; 38¢, 40¢, 50¢. 1 dime, 1 quarter; 15¢, 25¢, 50¢. 3 cents, 2 dimes; 27¢, 30¢, 40¢, 50¢. **5.** 25¢. **6.** $.11. **7.** $2.00. **8.** $3.00.

Page 197. — **2.** 375; 683; 482; 190; 492; 295. **3.** 664; 164; 586; 154; 394; 143. **4.** 340; 181; 792; 298; 567; 174. **5.** 123; 62; 330; 81; 461; 355. **6.** 472; 255; 246; 290; 571; 96. **7.** 337; 81; 154; 223; 255; 372. **8.** 81; 330; 261; 351; 518; 270.

Page 198. — **1.** 4 inches. **2.** 4 inches. **3.** 9 inches. **4.** 5 inches. **5.** 7 years. **6.** 13 chickens.

Page 199. — **1.** 499; 582; 542; 183; 172; 360. **2.** 184; 395; 62; 143; 475; 168. **3.** 32; 165; 155; 376; 94; 283. **4.** 657; 94; 384; 127; 272; 480. **5.** 35; 75; 2; 249; 156; 557. **6.** 429; 56; 397; 15; 673; 109. **7.** 482; 29; 124; 592; 417; 274. **8.** 282; 430; 48; 133; 160; 338. **9.** 460; 67; 216; 371; 211; 173. **10.** 396; 349; 318; 496; 7; 354. **11.** 51; 283; 33; 116; 394; 238.

Page 200. — **2.** 209; 165; 308; 408; 320; 168. **3.** 80; 261; 136; 309; 209; 323. **4.** 403; 205; 106; 108; 50; 84. **5.** 490; 605; 152; 207; 207; 305. **6.** 355; 309; 104; 431; 302; 380. **7.** 409; 70; 508; 69; 606; 40. **8.** 538; 169; 209; 209; 550; 158. **9.** 515; 164; 270; 34; 188; 30.

Page 202. — **1.** 85 miles. **2.** 38 papers. **3.** 27 flowers. **4.** $295. **5.** 148; 298; 175; 299; 147; 357. **6.** 189; 54; 288; 269; 146; 96. **7.** 434; 73; 278; 165; 84; 95. **8.** 596; 359; 229; 172; 577; 395. **9.** 487; 197; 296; 173; 88; 277. **10.** 647; 335; 296; 291; 585; 49.

Page 203. — **2.** $1.17. **3.** $1.37; $3.76; $2.66; $2.45; $7.73. **4.** $2.78; $3.64; $4.55; $1.99; $4.38. **5.** $2.59; $4.44; $.58; $.48; $5.49. **6.** $7.81; $.75; $2.25; $4.47; $3.32.

Page 204. — **2.** 362. **3.** 347; 306; 93; 91; $1.09; $1.04. **4.** 149; 182; 104; 63; $1.08; $1.05. **5.** 201; 457; 9; 96; $.85; $4.12. **6.** 462; 86; 153; 396; $2.07; $.85. **7.** 109; 181; 297; 76; $2.84; $.63.

Page 205. — **1.** $7.64; $8.27; $9.36; $8.45; $9.00. **2.** $6.99; $9.03; $5.68; $10.79; $5.70. **3.** $7.42; $8.24; $6.51; $6.75; $8.80. **4.** $8.30; $4.96; $5.19; $5.73; $4.88. **5.** $8.64; $5.01; $12.03; $7.97; $10.38. **6.** $4.70; $2.35; $2.06; $.94; $2.06. **7.** $1.54; $1.78; $.62; $2.98; $4.44. **8.** $5.34; $4.59; $.71; $5.20; $1.03. **9.** $1.78; $2.09; $2.92; $1.35; $4.17.

Page 211. — **1.** 72 marbles. **2.** 108 marbles. **3.** 45 marbles; 120 marbles. **4.** 78; 105; 252; 270; 132; 225; 276. **5.** 192; 123; 165; 108; 180; 216; 249. **6.** 255; 150; 45; 246; 228; 102; 195. **7.** 75; 48; 129; 240; 273; 168; 222.

Page 212. — **2.** 144 children. **3.** 114; 141; 87; $2.31; 651; 927; $3.57. **4.** 168; 184; 234; $2.91; 375; 498; $7.91. **5.** 152; 204; 91; $.98; 924; 627; $6.54. **6.** 297; 176; 201; $1.90; 972; 824; $4.74. **7.** 130; 108; 177; $1.38; 816; 791; $5.15. **8.** 154; 162; 52; $1.60; 924; 492; $12.78.

Page 214. — **3.** $4.50. **4.** $6.50. **5.** $7.80. **6.** $9.60. **7.** $5.66.

Page 215. — **1.** 1048; 1155; 1040; 2526; 928; 917. **2.** 2079; 791; 600; 528; 546; 723. **3.** 824; 2240; 819; 744; 526; 513. **4.** 650; 1986; 870; 924; 327; 675. **5.** 2880; 1629; 1170; 873; 2013; 756. **6.** 780; 2046; 892; 812; 1716; 612. **7.** 1179; 960; 1418; 340; 786; 576. **8.** 1655; 2400; 483; 614; 928; 618. **9.** 1020; 982; 720; 605; 1624; 1959. **10.** 528; 1227; 1065; 927; 1364; 1326. **11.** 2240; 830; 920; 346; 1605; 496.

Page 216. — **1.** 196; 218; 224; 190; 184; 196; 151. **2.** 228; 209; 229; 202; 174; 193; 156. **3.** 260; 222; 251; 211; 251; 203; 231. **4.** 305; 1344; 351; 755; 1161; 1203. **5.** 993; 558; 876; 893; 876; 763. **6.** 502; 671; 631; 924; 1875; 912. **7.** 818; 1062; 560; 824; 995; 835. **8.** 1097; 886; 1569; 926; 899; 841.

Page 217. — **1.** 45¢. **2.** 50¢. **3.** 20¢. **4.** 60¢.

Page 219. — **7.** April 18. **8.** January 26; May 19; August 25; September 16; June 30; November 23. **10.** 5 Fridays.

Page 220. — **1.** 412; 684; 250; 816; 656; 478. **2.** 912; 651; 812; 459; 830; 549. **3.** 348; 813; 432; 918; 740; 627. **4.** 957; 610; 945; 368; 753; 852. **5.** 621; 954; 658; 927; 942; 384. **6.** 496; 386; 759; 486; 670; 921. **7.** 782; 800; 546; 648; 489; 720. **8.** 510; 458; 375; 764; 810; 818. **9.** 588; 429; 926; 1527; 1014; 1440. **10.** 312; 760; 657; 344; 1020; 276. **11.** 506; 1518; 1210; 780; 292; 1353.

Page 221. — **1.** 22; 24; 24; 20; 27; 28; 28; 24; 25. **2.** 26; 23; 25; 20; 17; 19; 21; 29; 27. **3.** 19; 25; 26; 27; 19; 28; 28; 22; 27. **4.** 661. **5.** 332. **6.** 904. **7.** 800. **8.** 879. **9.** 806. **10.** 422. **11.** 937. **12.** 652. **13.** 143. **14.** 168. **15.** 194. **16.** 212. **17.** 122. **18.** 133. **19.** 207. **20.** 151. **21.** 180.

Page 222. — **1.** 6 valentines. **2.** 27 cookies. **3.** 12¢ less; 12¢ more. **4.** 8 white rabbits. **5.** 32¢. **6.** 25¢. **7.** 9 rabbits. **8.** 9 in.

Page 225. — **1.** 90¢. **2.** 85 cookies. **3.** 8 inches. **4.** $.35. **5.** 81 cookies. **6.** $.97. **7.** $1.55. **8.** $1.24. **9.** 80¢.

Page 226. — **3.** 4 cents, 1 quarter; 3 cents, 1 nickel; 4 cents, 1 dime; 1 cent, 4 dimes; 1 cent, 1 dime, 1 quarter; 2 cents, 2 dimes. **6.** 367; 46; 105; $3.76; $8.53; $.08. **7.** 206; 190; 87; $.79; $2.64; $2.08. **8.** 27; 90; 303; $1.17; $1.56; $3.54. **9.** 115; 120; 297; 375; 951; 324. **10.** 210; 184; 192; 870; 917; 852. **11.** 195; 240; 198; 586; 206; 516. **12.** 150; 172; 222; 1491; 920; 645.

Page 227. — **1.** 339; 327; 64; 479; 429. **2.** 256; 176; 194; 350; 561. **3.** 806; 5; 308; 79; 350. **4.** 155; 599; 568; 297; 144. **5.** 371; 402; 694; 103; 598. **6.** $.68; $1.83; $.61; $1.09. **7.** 282; 138; 1875; 654; 678. **8.** 1155; 2560; 986; 813; 579. **9.** 924; 580; 750; 854; 819.

Page 234. — **1.** 8 vases. **2.** 5 marbles. **3.** 16 crayons. **4.** 4 lollipops. **5.** 6 dresses. **6.** 9 black chicks. **7.** 7 gumdrops. **8.** 50¢. **9.** 5 pencils. **10.** 8¢. **11.** 66 children. **12.** $3.00.

Page 235. — **1.** 466; 836; 400; 398; 394; 617. **2.** 654; 573; 668; 714; 957; 932. **3.** 971; 538; 963; 930; 647; 1029. **4.** 121; 84; 123; 120; 128; 155; 138; 194. **5.** 178; 229; 237; 224; 204; 210; 184; 230. **6.** 209; 207; 175; 150; 180; 182; 223; 244.

Page 236. — **1.** 697; 118; 597; 239; 373; 507. **2.** 309; 739; 585; 487; 344; 208. **3.** 349; 56; 203; 466; 439; 528. **4.** 477; 29; 113; 206; 560; 387. **5.** 795; 121; 286; 709; 224; 165. **6.** 302; 197; 110; 6; 348; 558. **7.** 414; 90; 256; 188; 818; 53. **8.** 467; 269; 250; 67; 204; 109. **9.** 138; 249; 683; 276; 274; 345. **10.** 173; 689; 697; 154; 258; 285. **11.** 355; 379; 496; 203; 95; 569.

Page 237. — **1.** 15 birds. **2.** 62 polliwogs. **3.** 7 cocoons. **4.** 61 bulbs. **5.** 225 chicks. **6.** 3 hr. 15 min. **7.** 35 inches.

Page 238. — **1.** 45 plants. **2.** 96 pieces. **3.** $1.30. **4.** 54 cookies. **5.** 120 stamps. **6.** 117; 184; 261; 117; 378; 654; 975. **7.** 94; 196; 114; 162; 692; 1080; 810. **8.** 138; 158; 160; 201; 387; 920; 476. **9.** 168; 161; 112; 144; 621; 978; 1218. **10.** 92; 186; 225; 72; 1065; 2247; 1026. **11.** 195; 87; 56; 256; 354; 927; 1053.

Page 242. — **2.** 12 roses. **3.** 14 sheets.

Page 243. — **1.** 31; 32; 13; 43; 11; 33. **2.** 23; 41; 22; 14; 33; 42. **3.** 34; 24; 32; 13; 22; 21. **5.** 121 stamps. **6.** 112 marbles. **7.** 231; 143; 212; 332; 421; 321. **8.** 431; 232; 311; 121; 413; 243. **9.** 312; 231; 122; 211; 321; 233. **10.** 112; 311; 212; 323; 232; 313.

Page 244. — **1.** 8 oranges. **2.** 14 marbles. **3.** 12 stamps. **4.** 6 crayons. **5.** 8 pencils. **6.** 5 apples. **7.** 12 lollipops. **8.** 23 stamps. **9.** 23 hats. **10.** 21 yards.

Page 245. — **1.** 856; 968; 345; 278; 290; 700. **2.** 381; 456; 848; 372; 218; 948. **3.** 780; 915; 616; 338; 1827; 270. **4.** 729; 308; 804; 789; 562; 456. **5.** 900; 549; 294; 248; 615; 876. **6.** 272; 216; 843; 786; 657; 399. **7.** 678; 840; 742; 630; 321; 1015. **8.** 488; 322; 429; 638; 519; 252.

Page 246. — **2.** 62 brown chickens. **3.** 72 eggs. **4.** 72 eggs. **5.** 50 chicks. **6.** 64; 93; 73; 71. **7.** 82; 52; 53; 93. **8.** 53; 63; 72; 41.

Page 247. — **1.** 73; 51; 241; 41; 72. **2.** 63; 132; 113; 72; 213. **3.** 83; 313; 82; 222; 62. **4.** 92; 412; 51; 81; 71. **5.** 64; 71; 123; 83; 324. **6.** 94; 132; 52; 92; 131. **7.** 53; 61; 332; 84; 42. **8.** 91; 93; 53; 62; 112. **9.** 54; 221; 43; 11. **10.** 52; 63; 82; 23. **11.** 73; 81; 142; 44. **12.** 333; 61; 91; 31. **13.** 74; 341; 93; 12. **14.** 51; 94; 72; 32. **15.** 51; 71; 121; 41. **16.** 92; 81; 214; 21.

Page 249. — **1.** $9. **2.** $7.87; no. **3.** $1.13. **4.** $2.20; yes; yes; $1.07.

Page 250. — **1.** 190; 242; 181; 199; 246; 206; 179. **2.** 160; 228; 228; 150; 184; 187; 192. **3.** 227; 170; 180; 212; 190; 252; 198. **4.** 232; 214; 222; 251; 215; 242; 226. **5.** 301; 46; 499; 290; 504; 479. **6.** 467; 249; 197; 38; 159; 263. **7.** 363; 156; 128; 278; 169; 598. **8.** 489; 397; 39; 269; 189; 237.

Page 251. — **1.** 6 cookies. **2.** 23 stamps. **3.** 5 candy canes. **4.** 22¢. **5.** 24¢. **6.** 12 nuts. **7.** 44¢.

Page 252. — **1.** $1.80. **2.** 5 fish. **3.** 5 sandwiches. **4.** 4 cookies.

Page 253. — **5.** 2 apples. **6.** 19 fish. **7.** 24 fish. **8.** 8 fish. **9.** 7 hours.

Page 254. — **1.** 286; 318; 454; 418; 516; 906. **2.** 1155; 438; 364; 687; 726; 426. **3.** 324; 783; 624; 348; 784; 791. **4.** 681; 1048; 528; 832; 513; 981. **5.** 618; 490; 910; 873; 728; 918. **6.** 53; 111; 214; 223; 64. **7.** 133; 92; 411; 434; 63. **8.** 343; 333; 244; 92; 331. **9.** 322; 111; 83; 71; 131. **10.** 221; 422; 322; 51; 414. **11.** 54; 62; 82; 143; 123. **12.** 73; 321; 213; 53; 93. **13.** 124; 43; 73; 81; 72.

Page 256. — **4.** 3 oz. **5.** 14 lb. **6.** 32 oz.; 48 oz.

Page 257. — **1.** 8¢. **2.** 32 pages. **3.** 288 sheets. **4.** 72 sheets. **5.** 17. **6.** 24 years. **7.** 75¢. **8.** 8 pencils. **9.** $4.23. **10.** $6; $18.

Page 258. — **2.** 8 oz.; 48 oz. **3.** 30 min.; 120 min. **9.** 42; 312; 433; 81. **10.** 22; 72; 141; 221. **11.** 21; 233; 41; 113. **12.** 34; 212; 231; 342. **13.** 1060; 354; 940; 296; 1624; 879. **14.** 726; 452; 1980; 315; 728; 942. **15.** 1872; 516; 502; 218; 1610; 618. **16.** 847; 565; 387; 1036; 1110; 496.

Page 259. — **1.** 168; 117; 312; 654; 381. **2.** 924; 528; 910; 2079; 655. **6.** 412; 341; 124; 243. **7.** 84; 52; 91; 74. **8.** 213; 311; 112; 232. **9.** 82; 51; 73; 92. **10.** 23; 132; 62. **11.** 41; 83; 74.

Page 264. — **1.** 60 sandwiches. **2.** 100 marbles. **3.** 72 in.; 36 in.; 72 in.; yes. **4.** 124; 92; 728; 492; 460; 960. **5.** 336; 300; 436; 968; 864; 684. **6.** 196; 224; 640; 860; 476; 420. **7.** 388; 272; 452; 800; 896; 472.

Page 265. — **1.** $6.00. **2.** $3.08. **3.** $1.80. **4.** $2.72; $1.52; $1.44; $8.96; $7.80; $7.98. **5.** $3.88; $3.69; $2.80; $7.05; $8.32; $8.52. **6.** $2.20; $1.40; $3.44; $9.27; $6.20; $8.72. **7.** $1.44; $3.36; $2.15; $8.92; $5.60; $9.60. **8.** $2.68; $2.64; $2.16; $6.24; $8.76; $6.88. **9.** $.98; $2.28; $2.16; $8.04; $9.80; $9.99.

Page 266. — **1.** 5 P.M.; 10:30 P.M. **2.** 933 people. **3.** $4.60. **4.** $.40. **5.** 20¢. **6.** 15¢. **7.** Yes.

Page 267. — **8.** 12 clowns. **9.** 18 ponies. **10.** 27 years.

Page 268. — **6.** $8.06. **7.** 104. **8.** 6 cookies. **9.** 872; 1284. **10.** 123; 93. **11.** 30 min. **12.** 40¢.

Page 269. — **1.** $10.70; $7.92; $8.64; $9.63; $7.14. **2.** $9.25; $8.11; $8.01; $10.34; $9.72. **3.** $11.90; $9.22; $6.45; $7.00; $8.50. **4.** $6.99; $4.87; $7.61; $8.00; $9.69. **5.** $5.70; $5.96; $4.74; $2.57; $4.08. **6.** $2.45; $2.30; $3.03; $.27; $2.61. **7.** $2.49; $2.65; $4.92; $3.08; $1.96. **8.** $.13; $.89; $3.09; $4.86; $1.18. **9.** $2.75; $1.67; $.68; $.96; $2.37.

Page 273. — **1.** 3 oranges; 5 oranges. **2.** 9 in. **3.** 12 pieces. **4.** 8 apples; 3 apples; 6 apples. **5.** 7 gallons; 4 gallons. **6.** 9 rows. **7.** 11¢. **8.** 8 baskets. **9.** 22 marbles. **10.** 4 oz. **11.** 6 days. **12.** 5 pencils; 7 pencils.

Page 275. — **1.** 10 vases. **2.** 30¢. **3.** 30 bags. **4.** 12; 101; 30; 102; 102. **5.** 10; 60; 120; 211; 134. **6.** 10; 80; 50; 50; 62. **7.** 40; 52; 103; 32; 133. **8.** 22; 200; 41; 224; 90. **9.** 11; 104; 130; 40; 100. **10.** 23; 70; 220; 114; 101. **11.** 20; 203; 201; 42; 91.

Page 278. — **1.** 400 packages. **2.** 50¢. **3.** 7 packages. **4.** 5 packages.

Page 279. — **5.** 15¢. **6.** $1.50. **7.** Yes. **8.** 14 packages. **9.** 70¢. **10.** 20¢, 25¢, 50¢.

Page 281. — **3.** 190; 142; 197; 120; 189; 152; 134. **4.** 223; 258; 193; 188; 158; 162; 183. **5.** 745; 1061; 1607; 1423; 1192; 1548. **6.** $2.79; $7.63; $7.99; $5.29; $3.59; $11.61. **7.** 23. **8.** 27. **9.** 27. **10.** 20. **11.** 26. **12.** 25. **13.** $8.14. **14.** $3.42. **15.** $4.79. **16.** $3.02. **17.** $6.41. **18.** $3.83.

Page 282. — **2.** 27; 54; 52; 233; $3.46; $.73. **3.** 38; 27; 35; 505; $1.17; $6.25. **4.** 4; 48; 72; 438; $1.20; $1.54. **5.** 18; 41; 285; 87; $2.42; $1.73. **6.** 5; 2; 415; 108; $.29; $.93. **7.** 38; 19; 93; 233; $.89; $.66. **8.** 69; 17; 650; 63; $2.40; $.24. **9.** 80; 2; 143; 325; $3.36; $1.76. **10.** 192; 605. **11.** 126; 278; 409. **12.** 119. **13.** $8.33; $.73. **14.** $2.07.

Page 284. — **1.** 24 cookies. **2.** 59¢. **3.** 4 in. **4.** 30¢. **5.** 15¢. **6.** 22¢. **7.** 24¢. **8.** $2.44. **9.** 24 cups. **10.** 20 stamps. **11.** 55¢.

Page 286. — **1.** 43¢. **2.** 5 lb. **3.** 5 tables. **4.** 20 packages. **5.** $.30. **6.** $1.32. **7.** $4.93. **8.** 20 chickens. **9.** 32 children. **10.** $4.00. **11.** $1.40.

Page 287. — **1.** 12¢; 15¢; 25¢. **4.** 30¢. **5.** 20¢. **6.** 75¢. **7.** 35¢. **8.** 25¢. **9.** 40¢. **10.** 42¢. **11.** 86¢.

Page 288. — **2.** 138; 112; 408; 813; $5.08; $4.60. **3.** 384; 135; 705; 274; $19.20; $10.44. **4.** 237; 196; 608; 1479; $8.96; $9.28. **5.** 228; 204; 918; 614; $8.40; $6.00. **6.** 172; 136; 832; 984; $14.84; $4.84. **7.** 9; 50; 61; 122; 210; 73. **8.** 7; 53; 61; 40; 201; 412. **9.** 8; 94; 201; 83; 70; 71. **10.** 7; 41; 50; 92; 83; 80. **11.** 7; 102; 32; 61; 231; 91.

Page 289. — **1.** 9 weeks. **2.** $19.00. **3.** $14. **4.** $3.00. **5.** 15 hr. **6.** 6 weeks.

Page 290. — **9.** 108; 136; 728; 1040; 1676; 1220. **10.** 168; 387; 1632; 2046; 2705; 312. **11.** 336; 224; 1570; 1687; 768; 684. **12.** 20; 90; 82; 51; 72. **13.** 11; 41; 61; 102; 300. **14.** 32; 81; 220; 101; 31.

Page 291. — **1.** 20 jars. **2.** 8 yd. **3.** 20¢. **4.** 9 plants. **5.** $5.40. **6.** $2.30. **7.** 20¢. **8.** 4 in. **9.** 23¢.

Page 292. — **2.** 180; 124; 312; 1040; 1276. **3.** 144; 138; 2387; $1.47; $8.32. **4.** 170; 336; 2736; $1.80; $7.68. **6.** 22; 30; 61; 302; 80. **7.** 22; 10; 60; 71; 32.

Page 293. — **4.** $13.20. **5.** 235. **6.** 179. **7.** 256. **8.** 3168. **9.** 91. **10.** 210. **11.** 941. **12.** 38¢. **13.** 12¢, 15¢, 25¢, 50¢; 12¢, 15¢, 20¢, 30¢, 40¢, 50¢. **14.** $3.80. **15.** 23¢. **16.** 7 lb.

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